
The Journal of Educational Sociology

A Magazine of Theory and Practice

Vol. IV

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NARCOTIC EDUCATION

Editorial	333
The Development and Causes of Opium Addiction as a Social Problem C. E. Terry	335
The Rehabilitation of the Drug Addict George B. Wallace	347
The Sociological Implications of Drug Addiction L. Guy Brown	358
Narcotics and Education E. George Payne and J. L. Archer	370
Education with Regard to Narcotics Raymond Schlemmer	380
Ultra-Violet Rays and Drugs A. J. Pacini	386
Research Projects and Methods in Educational Sociology	397
Book Reviews	406
News from the Field	410
Contributors' Page	413

The Journal of Educational Sociology

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EDITORIAL

The current number of the JOURNAL is devoted exclusively to the presentation of the problem of narcotics in its social and educational aspects. Moreover, the effort in this issue has been made in line with the policy of this JOURNAL, to approach this problem from the point of view of research in the field.

Captain Richmond P. Hobson, of the International Narcotic Education Association, has so aptly summarized, in his statement, the point of view of this JOURNAL with reference to research in this particular field that I am presenting his view. He says:

In few fields, perhaps in no field, are the basic facts more hidden, more hedged about by barriers, than in the field of narcotic drug addiction and in no field, perhaps, is it more necessary to know the basic facts. The drug heroin, for instance, the most powerful of the narcotic-forming drugs, was first announced and used as nonhabit forming and harmless by the profession.

Moreover, the world is being exploited by a secret international drug ring that is sinking its roots into the commercial, financial, and political systems of the nation. As I write, the papers announce, in large headlines, the confiscation of a million-dollar shipment of morphine designed for illegal uses. It is difficult to get at the nature of this peril. As research is attempted those seeking information find a situation that does not yield basic information. Furthermore, the scientific student

has found it difficult to determine the nature of drugs, the physiology of addiction, the degree of "tolerance" and "withdrawal" symptoms, or to offer a cure for the drug addict. Governments have not the knowledge nor have they developed the means for finding out the number of drug addicts, and the cause and manner of the spread of addiction. Thus far they have proved unable or unwilling to suppress the illicit traffic.

It would appear from the research that individuals are deceived and, through their ignorance, are led to the formation of drug habits and yet it is difficult to discover even the methods by which the use of narcotics is spread. Undoubtedly one of the serious features in preventing the spread is the ignorance and indifference on the part of the public. It would appear that a program of narcotic education, both through the informal educational agencies and through the schools, is essential to the safety of the individual and of society, but even the adequate organization of a program of education will depend upon the research into the facts relating to drugs and also a research into the attitudes, knowledge, and point of view of the educator in order to introduce into the schools, in its appropriate place, the essential knowledge for the purpose of dispelling ignorance and arousing interest on this fundamental social problem.

In a word, the solution of the problem of narcotic drug addiction will hinge upon the character and effectiveness of the research into every phase of its manufacture, its distribution, its effect in use, and the educational problem involved. It is the primary purpose of the International Narcotic Education Association to make these researches and to base its procedure upon scientific findings. The organization invites the coöperation and assistance from the public in its work of research and investigation and should welcome any criticism of its efforts from those who are interested in a scientific approach to the study and solution of this problem. It would welcome any statement of criticism or suggestion at its office at 578 Madison Avenue, New York City.

This point of view seems to me to be so sane and in line with the essential approach to this problem that we have included it in full. The JOURNAL would welcome response from its readers—suggestions or criticisms—and also would like to know of whatever is taking place in the field at any point in the effort to control the evils of narcotic drug addiction.

THE DEVELOPMENT AND CAUSES OF OPIUM ADDICTION AS A SOCIAL PROBLEM

C. E. TERRY

In none of the sociological problems that confront us today is there such a close intermingling of necessary and unnecessary practices as is found in the use and abuse of opium and its derivatives. Historically, its medical and social uses developed concurrently and must be considered together if a proper understanding of the problem as it exists today is to be attained.

As far as is known, opium was used first in common with certain other drugs for therapeutic purposes alone. The earliest available information is that referred to in *The Assyrian Herbal* by R. Campbell Thompson, which is a translation of Assyrian medical tablets in the British Museum, formerly in the Royal Library of Ashurbanipal. Thompson points out a possible origin for the Latin *papaver*, in the Assyrian *Arat Pa Pa*, "juice of the poppy," found in these tablets. They also contain the borrowed Sumerian ideogram, *hul gil*. This ideogram, which signifies "joy" or "rejoicing" (*hul*) and "plant" (*gil*), according to Professor R. P. Dougherty in charge of the Babylonian Collection at Yale University, dates from about the fourth millennium B. C. It would appear from this term that the Sumerians were familiar with its euphoric properties and that they recognized its medical properties is evidenced by the uses they made of it. The method of collecting opium is described in these tablets and was the same as that in use today in opium-growing countries. It is not improbable that the Assyrians, Syrians, Egyptians, Persians, Turks, and Arabs acquired their knowledge of the drug directly or indirectly from the Sumerians and Babylonians. Greek and Roman medical and other literature referred to it (Hippocrates, Herodotus, Vergil, Homer, etc.). Its

extension East through Arab traders carried it to India before the time of Mohammed (570 A. D.-632 A. D.).

It is said that opium has been known in China since the seventh century A. D., when it was imported overland from India via Burma and Yunnan by Arab traders. The first Chinese mention of it was in 973 A. D., when the reigning emperor ordered the preparation of a new herbarium into which the poppy was inserted as a cure for dysentery. The trade originated by the Arabs later was perpetuated by the Chinese themselves and by the Portuguese and Dutch traders from India and other opium-growing countries, in whose hands it remained until 1773 when English merchants from Calcutta took it up. At this time the importation increased rapidly and in 1781 the East India Company took the trade into its own hands.

In the history of the use of opium in medicine a momentous discovery was made in 1803 when Derosne and two years later Sertürner succeeded in separating from the crude drug a substance, an alkaloid base, now known as morphine. This was the beginning of modern alkaloidal medicine.

Throughout the nineteenth century in Europe as well as in the New World, opium continued to be used under one pretext or another in almost every malady. Opinions differed as to its physiological properties and as to its mechanism in disease, but all schools of thought agreed as to its efficacy, whatever the alleged *modus operandi*.

DEVELOPMENT OF THE PROBLEM OF ADDICTION

As far as the earliest records indicate, the social problems involved in the nonmedical use of opium were evidenced first in those countries in which the poppy was cultivated and from which commerce carried it to other parts of the world. Well-authenticated records show that the Persians, Turks, and Arabs, all of whom produced opium, were noted for its continued use, and other countries, such as India and China, to which opium first was

carried by the Mohammedans (Arabs) presumably for medical purposes, became producing countries and *pari passu* consuming countries. That the Mohammedans early became heavy consumers of opium has been attributed by some writers to the fact that the prophet, Mohammed, in the Koran prohibited the use of alcoholic beverages but not that of opium, and that the faithful thus satisfied their desire for narcotics by the use of the latter drug.

All of the producing countries became to a greater or less degree consumers of the crude drug and have remained so until today. In China the eating of opium for non-medical purposes developed as it had in India through the cultivation of the poppy. That its consumption in this form in China had reached the dimensions of a social problem is evidenced by the fact that its use was interdicted before the smoking of opium had been introduced into that country. Although no definite evidence is at hand, Morse is inclined to think that opium was not smoked by itself in China until about 1700, after which it came to be especially prepared for this purpose. The first edict against the smoking of opium is said to be that of Yung Cheng in 1729, though earlier edicts had been issued against tobacco smoking.

The smoking of opium spread from China wherever the Chinese migrated. It was brought to the United States by coolie laborers on the West Coast and it is said that the first white man to smoke opium in the United States was a world tramp named Clendenyn in 1868. The practice spread rapidly across the continent in all large centers of population and occasioned the first prohibitory legislation in the form of municipal ordinances and later of State laws. Practically every civilized country has been invaded to some extent by the practice.

While the problems of opium misuse developed first on an extensive scale in the producing countries they developed also, though more gradually, in all countries in which opium was used in medicine. In Europe the social use of

opium gradually spread before and during the Middle Ages. How extensive the use of the crude drug and, later, of laudanum became in Europe and America before the nineteenth century is not known.

Another influence to increase the problem of addiction began with certain writings of this period. Even the very earliest medical writings, such as those of Michael Doering, Young, Jones, and others to warn against the dangers of too free a use of opium, dwelt at such length upon its euphoric and stimulating properties and endowed it with such mysterious qualities that it was little wonder that the more intellectual laymen of the day developed an interest in the drug and that lay writers utilized their partial knowledge of its properties. Among the earliest and by far the most important of these was Thomas De Quincey, in whom ill health, a neurotic temperament, and literary genius combined to produce the "Confessions of an English Opium-Eater." It is doubtful if any single work has had a more far-reaching influence in stimulating its readers to undertake hazardous experiments with opium than has De Quincey's masterpiece, the forerunner of a host of other less brilliant but equally morbid productions.

The next important discovery which became a factor in the spread of addiction was that of the hypodermic syringe by Rynd of Dublin in 1845 and Wood of Edinburgh in 1853. By the employment of this instrument and the injection of morphine and other derivatives of opium under the skin, it was thought that the so-called opium appetite would not be stimulated, as it had been heretofore by oral administration. That this was not realized is evidenced by the fact that the hypodermic use of morphine as a drug of addiction has become in Western countries the most common method of administration.

It is probable that ever since the analgesic effects of opium became known, wars also have been responsible for an increase in the problem of addiction, although little mention of this factor can be found in available records

until the advent of the Civil War in the United States and the Franco-Prussian War in Europe. So marked was the effect of the former that opium addiction came to be known in America after 1865 as the "army disease." The World War also gave rise to many victims in all of the participating countries, particularly in Germany, France, and Italy, where the marked increase is a matter of frequent comment in medical writings.

The extolling of opium by medical writers and the susceptibility of the public to therapeutic suggestions culminated in the nineteenth century in the development of a host of patent remedies containing opium or its derivatives. The peak of the patent-medicine industry in the United States was reached just prior to the passage of the Pure Food and Drugs Act in 1906. The decline of the industry began at this time and was further affected in 1914 with the passage of the Harrison Narcotic Act.

In 1898 a further impetus was given to the use of opium through the discovery by Dreser in Germany of heroin. His claims and those of others were to the effect that it was free from habit-forming properties and was useful in the treatment of opium addiction. Medical literature for the next ten or twelve years continued to advocate the use of heroin and it was not until about 1910 that the picture began to change and the profession began to realize that heroin was as dangerous as morphine or other opium derivatives in addiction-forming properties. The underworld, in America, at least, already were well aware of this. Heroin was taken by mouth and hypodermically and, in addition, came to be used by sniffing, a method earlier applied to cocaine. Its greater potency, the ease with which it could be sniffed, and the rapidity of its absorption through the mucous membrane of the nose all led to early popularity of this drug as a drug of addiction. Its use as a curative agent in morphinism was responsible also in a large measure for its nonmedical use. Since the adoption of local and national prohibitory laws, heroin has become

more profitable in the illicit traffic and, along the Atlantic seaboard in the United States, the most commonly handled drug. The fact that its amorphous form permits easily of adulteration doubtless has been a factor in this situation. At the present time in the United States, such a strong sentiment against heroin has developed that its importation and manufacture are prohibited, even though it is claimed in some medical circles that heroin possesses certain uniquely valuable therapeutic properties.

The illicit traffic as an influence in the spread of addiction cannot be measured. That this traffic is enormous and reaches practically every corner of the earth, that it involves many tons of morphine and heroin annually in addition to opium prepared for smoking, and that it is carried on in response to a very real demand are testified to by many of the documents of the League of Nations. Seizures have been reported amounting to thousands of pounds, yet there seems to be no scarcity of smuggled drug. Individual histories of addicts show that morphine, heroin, and cocaine are available practically everywhere in the United States and Europe. The very nature of the traffic is such that it cannot be defined with accuracy, yet that it operates to extend addiction through the efforts of the retail peddlers is a common feature of the history of many addicts.

One other contributory influence on the problem of addiction in its present magnitude remains to be considered. This influence, in the United States at least, is the present attitude of the medical profession towards addiction, either as the result of lack of knowledge or lack of interest in the subject. As medical knowledge has increased, especially within the last one hundred years, and therapeutic measures have been directed more at cause and less at symptoms, the need for opium has materially decreased. Better medical training and appreciation of the dangers of its continued use and of the difficulties surrounding its relinquishment by those addicted and, in the past few decades, the more widespread popular knowledge of its undesirable

effects have tended to lessen the importance of the therapeutic addict. Unfortunately, however, accurate knowledge of tolerance formation and of the resulting dependence and unsatisfactory methods of treatment of existing cases have combined to retard medical progress, both in the prevention and cure of this condition. Further, the earlier concept that the use of opium was dependent upon a vicious "appetite" or unstable personality make-up has deterred physicians from an interest in the subject. More recently, too, the ill-judged enforcement in the United States of certain regulations under the Federal narcotic law still further prevented physicians from the handling of these cases, thus sustaining their lack of interest in the condition.

It is unavoidable in the humane practice of medicine that some addicts be formed. Chronic, incurable, painful maladies, the emergencies of war and accidents and injuries all contribute their quotas and such situations will continue as long as opium and its derivatives remain irreplaceable for the relief of pain. That other cases, even at the present time, are formed from the use of opium in medicine and with less pathologic justification is undoubted. Studies made by the Committee on Drug Addictions indicate that the use of opium by physicians is not always in accordance with the best medical judgment and teachings, and that individuals needlessly are introduced to its euphoric properties at the hands of some physicians, either through ignorance or carelessness. Whatever the importance of these practices as a cause of preventable addiction, they may be expected to become less active as higher professional standards and increased knowledge of the physical and psychic effects of opium on different personalities exert their effect on medical equipment.

In reviewing the development of the problem of opium addiction through several thousand years of social evolution, we must not lose sight of the fact that each of the contributory factors named above has not been simple and

direct alone in its action; each one is complex and its indirect effects are far reaching. Each of them is so intimately concerned with social custom and usage, with deep-rooted human instincts and traditions, as to have become a part of the fabric of civilized nations. Their importance, therefore, is very great, and successfully to combat the end results each of them must be attacked individually in its medical, psychologic, and sociologic bearings.

CAUSES OF ADDICTION

Our present knowledge concerning the causation of addiction to opium is very meager, due to the fact that in their study of these cases authors have approached the subject from different points of view. A careful analysis of these studies reveals the fact that the majority of observers have appeared not to differentiate between what might be called predisposing or contributory factors and the immediate object for which the drug was taken. It is self-evident that there can be but one direct cause; namely, the continued taking of the drug over a sufficiently long period to produce, upon withdrawal, distress of some kind to the patient. In their classifications, however, most authors lose sight of the further fact that in any given case along with the object for which the drug is taken there may exist one or more predisposing causes, such as the influence of environment, of heredity, of psychopathological tendencies, and the like. The common mistake, therefore, on the part of most writers on the subject consists in using as a basis of etiologic classification incomparable factors. There can be only two effects sought in the use of the drug; namely, therapeutic effect and euphoria but there are many predisposing influences for its continued use. It is obviously incorrect to name one of these factors, including the object for which the drug originally was taken and the predisposing influences, as *the cause* of addiction in a given case. The determination of the exact rôle played by each of these factors is a matter for the most delicate

analysis and one which has received in previous studies practically no consideration, in spite of its very evident importance in the prevention of needless cases of addiction. The more or less limited or selected experiences of the various individual observers point strongly to the need of a broader and more critical type of approach. In this connection, there is a lack of evidence that sufficiently long and representative series of cases formed the basis upon which the various authors drew their conclusions.

It is commonly stated that from two weeks to thirty days is a sufficient length of time in which to establish addiction in most individuals when morphine is taken daily in increasing doses. Some authors claim that a much shorter period than this is sufficient in individuals of certain temperaments, while in others the drug may be taken repeatedly for periods of weeks or even months without the loss of the ability to discontinue it at will. Such cases, however, are relatively rare.

Owing to its invaluable properties in the relief of pain and as a narcotic, it is inevitable in certain medical uses of opium that cases of addiction be formed; and it is the general consensus of medical opinion that this fact should not deter physicians from its use when it is necessitated by the exigencies of the medical situation. On the other hand, it must not be forgotten that as far as the history of medicine tells us, its therapeutic use in the hands of physicians has not always been so limited and that its needless use, *i.e.*, its use for minor ailments and discomforts which might well have been borne by the average patient or relieved by the use of less dangerous remedies, has all too frequently proved the exciting cause of many cases of addiction. That this needless use of opium still continues to operate as an important exciting factor in the formation of cases of addiction is common knowledge in medical circles and is borne out by certain studies made by the Committee on Drug Addictions.

These cases where the drug first was taken for its euphoric effect alone constitute the class whose addiction originated on a nonmedical basis. Among them may be included addicts of all social groups who were introduced to the drug through association, curiosity, bravado, or other social stimuli. The opportunities for the operation of this type of cause are innumerable. Educational influences through published descriptions of the effects of the drug, association with individuals who have themselves used it, the traditions so commonly circulated as to its alleged aphrodisiac properties, the deliberate proselytism of traffickers and other addicts, example in the orgiastic tendencies of certain types of social gatherings, all claim their quotas chiefly among the young of both sexes whose natural imitative faculties and the unstable judgment of youth or constitution render them especially susceptible to suggestion. How great a percentage of all addicts in Occidental countries form this group cannot be determined on a statistical basis at the present time. That it includes large numbers of individuals is evidenced by the magnitude of the illicit traffic required to supply its demand.

Among the predisposing factors influencing the formation of addiction the one which probably requires the most serious consideration is that of the personality make-up of the individual. There are certain persons who, by reason of their psychologic, emotional, or temperamental characteristics, more readily than others become victims of the chronic use of the drug. This influence must not be lost sight of as, whatever the method of exposure through medical use, environment, or other means, it is present uniformly in the types involved. The statement has been made frequently that all addicts are constitutionally unstable. As yet sufficient evidence has not been produced to establish the validity of this hypothesis.

Closely allied in nature to the foregoing is the influence of environment on certain types of personality make-up. This may develop accidentally, as through the occupation

of the individuals affected (pharmacists, nurses, physicians, etc.), through association with acquaintances who use the drug for therapeutic purposes but who ill-advisedly pass on this knowledge, through voluntary association of a vicious nature involving dissipation in many forms, or through economic, domestic, or other social or emotional difficulties leading to the euphoric use of the drug. The potentialities of this factor are obvious but the degree of its influence is quite unknown.

Finally illness takes its place among the common predisposing causes of addiction. The relative position taken by this factor among the predisposing influences in general of today cannot be stated but, as was pointed out above, as long as painful disease prevails and opium is the principal agent of relief, addicts will be formed by its use.

From the point of view of the group, the social problems resulting from addiction are, first, the development of methods for the successful handling of existing cases and, second, the prevention of the formation of new cases.

The first of these problems is not a simple one and its solution must provide for the handling in a number of different ways of a variety of different types of cases. The most important consideration, probably, in the planning of remedial measures is a formulation of the etiologic factors operating to create the end product, *i.e.*, the addict population. As we have seen, these factors are widely different in character, in so far as the object for which the drug is first taken and the predisposing influences are concerned. It is obvious that for this purpose many different classifications of addicts could be made. For present purposes, the following is suggested: (1) individuals suffering from an incurable painful malady; (2) individuals to whom the drug was administered during a self-limited or curable malady; (3) individuals addicted through self-medication; (4) individuals who first took the drug through curiosity or bravado; and (5) individuals first introduced to the

drug through vicious associations. While the preceding classification is based chiefly on the object for which the drug first was taken and is offered merely to facilitate the practical handling of the problem from a sociologic point of view, it should be remembered, as pointed out above, that more than one predisposing factor may be operative in any given case and due cognizance of the existence of each should be taken. Especially is this true in relation to the personality make-up of the individual affected. Individuals of so-called "normal" as well as unstable personalities exist in all groups named and the handling of these cases must vary with the type involved.

It is not the province of this article to discuss the details of prevention, treatment, and control. It seems proper, however, to state that any system of control, in the broad sense, that fails to take into account the direct and predisposing causes of addiction discussed above must inevitably fall short of effective accomplishment.

THE REHABILITATION OF THE DRUG ADDICT

GEORGE B. WALLACE

The intensive experimental and clinical studies on drug addiction which have been made in recent years have established a number of facts of fundamental importance. In addition, they have had an effect in defining more clearly the directions which attempts to solve the problem of addiction may profitably take. In the past, knowledge on the subject has been uncoordinated and largely empirical. At present facts brought out by the more exact methods of statistics, experimentation, and by thorough clinical study are available and are brought together as coordinated parts of a whole. There are indeed innumerable gaps remaining, but on the whole it may be said with some confidence that the problem of drug addiction is better understood than that of any other one of comparable nature and importance.

In the carefully planned and carried-out studies made at the Philadelphia General Hospital, and repeated in part at Bellevue Hospital, it was shown that continued taking of opium or any of its derivatives resulted in no measurable organic damage. The addict, when not deprived of his opium, showed no abnormal behavior which distinguished him from a nonaddict. Further, the most careful examination of his body functions failed to show any damage which could be directly attributed to the narcotics. In animal experiments, which allow of complete control of all steps, it has also been demonstrated that morphine addiction is not accompanied by organic damage. The experiments, which are supplementary to the clinical studies, are of importance in that the animals used were studied not only during the addiction period but in the pre- and post-periods as well. These studies, carried out independently and agreeing in conclusions, are very convincing and, contrary to

older beliefs, establish that an addict is not an irrevocably diseased person.

The clinical studies have further thrown more light on the mental make-up of the drug addict. This is a phase of the problem much more difficult of approach, and for which methods for accurate measurements have not been developed. In both the Philadelphia and New York studies, the addicts under observation belonged to the lower social order and in fact many had criminal records. It was found that about half of the entire number could be classed as constitutionally psychopathic types. This term should not be confused with the term insanity, in the sense in which this latter is commonly used. It includes a complex mental make-up which prevents a reasonable adjustment to surrounding conditions. That basic changes in character occur during addiction was not established. The traits of lying, irritability, unscrupulousness, cowardice, disregard for others, and a lowering of the whole moral tone which characterize the behavior of the addict have long been recognized. It is not improbable, however, that these are all in a way part of a long existent defense mechanism. Since the addict can never be assured of the continuity of his drug supply, and, further, since there is a dread of the knowledge of his habit becoming spread, he adopts any method available to forestall these calamities. Whether a group of addicts in better worldly circumstances and of a higher social order would contain a proportionate number of psychopaths is unknown. It is quite probable, however, that such would be the case. In any event, the fact that so many drug addicts are of this abnormal type emphasizes the difficulties in any rehabilitation plan.

In practically all studies on drug addicts, efforts are made to determine the reason for the starting of the addiction. The results are sometimes given a statistical significance. While they are not sufficiently dependable for this, they still afford useful information. In general, it has been found that the addiction began in one of two

ways: first, through association with other addicts and, second, through the drug's being given by a physician in treatment of disease. In the latter instance, if the disease is of some duration and the narcotic administration continued throughout its course, the habit may be firmly established; or the knowledge of the great relief afforded by the drug may prompt the person to make use of it for entirely different conditions, mental as well as physical. The real distinction from the practical standpoint is that the individual who has taken the drug only for the purpose of relieving suffering caused by a continued physical disease offers a far better chance of complete and permanent cure than do the others.

The inability of the drug addict to rid himself of his habit is well known. In the Bellevue Hospital study where some three hundred addicts were under observation, it was shown that each addict had undergone at least one withdrawal treatment. Most of them had undergone several such treatments and some had passed through ten or more withdrawals. But in all of these it was unusual to find an abstinence period of longer than one year. The many so-called cures for drug addiction therefore have in themselves no permanency of effect. It is indeed hardly surprising that an addict, free for a time of his habit, but remembering clearly the pleasure and relief the narcotic affords, returns to its employment when his environment favors this or when he sees in it a relief from conditions he feels unable to face.

The facts which have been presented in the preceding paragraphs have a direct bearing on the problem of rehabilitation. They offer promise in that narcotic addiction produces no permanent organic damage, and hence on the physical side no bar to complete recovery. They are discouraging on the other hand in showing that a very considerable proportion of drug addicts are, if not actually psychopathic, at least significantly unstable mentally and unadapted for suitable adjustment to conditions which they

inevitably must face. It is discouraging also to know that in spite of a full recognition of the evils of drug addiction and the best intention to remain free of it, a permanent riddance of the habit has been in the past the exception and not the rule. But while these discouraging aspects emphasize the difficulties confronting any rehabilitation scheme, they are in no way overwhelming, and there seems no reason to doubt that a workable plan can be evolved through which those addicts whose habit is curable may be brought to a condition of permanent abstinence and those who are incurable placed in a position where they are no longer a social burden or menace.

Except for the passing of prohibitory laws there have been very few organized efforts made for ridding the drug addict of his habit. In 1919 the New York City Health Department opened a clinic for the care of drug addicts, at which over seven thousand were registered. Similar ones were established at about the same time at Shreveport, Louisiana, Los Angeles, and many other cities. At this time enforcement of the Harrison Act had materially shut off the ordinary sources of drug supply, and the addict could obtain his drug only from peddlers at an exorbitant price. The purpose of the clinics was to supply morphine at a moderate cost over a period during which efforts were made to gradually free the addict of his habit. The clinics seem to have performed a useful service in that in many instances the addicts, through being regularly and inexpensively supplied with their drugs, were able to work steadily and maintain their families. In addition they put an end to drug peddlers. After a rather short existence these clinics came to an end, either voluntarily or through order of the Commissioner of Internal Revenue.

Aside from these short-lived clinics, very little of a public nature has been attempted. New York City established a colony for inebriates and drug addicts in 1915 at Warwick, and in 1919 Riverside Hospital was set aside for those addicts, registered at the Health Department Clinic,

who were in need of hospital treatment. At both places the chief aim was to carry out a short convalescent treatment.

In the past two or three years, institutional work on rehabilitation, along well-planned and comprehensive lines, has been started in Michigan and California. The California experiment, begun in 1928, will be described later.

The general features of a rehabilitation plan, omitting for the present details of execution, are as follows: The addicts would be kept under legal commitment for an indeterminate period in an isolated locality. At the outset there would be a complete withdrawal of the drug of addiction. A comprehensive study of each addict would be made by which would be determined his physical condition, his mental make-up, the reasons for beginning addiction, and his training and fitness for some work affording a livelihood. The defects noted, a therapeutic schedule—mental, physical, and occupational—would be instituted. When a satisfactory degree of improvement had resulted, the addict would be provisionally discharged and a place secured for him through which he would become self-supporting and in which any former injurious environmental factors were absent. He would not, however, be a free agent, but on parole, which again would be indeterminate. The parole system would be such that the former addict would be helped when difficulties in his adjustment arose, and a return to addiction promptly recognized. If addiction recurred, he would be returned to the rehabilitation center and if deemed worth while the whole process would be repeated.

In the plan outlined, many difficulties may be seen. Its carrying out necessitates long-continued effort and large expense, and the ultimate results are by no means certain. It may indeed be asked whether the attempt is worth while. In this connection certain considerations may be stated. There is no accurate estimate of the number of drug addicts in the United States or in any of its localities. The reason

for this is that an unknown number of addicts obtain their drug supply from peddlers. Such traffic being illegal, there is no known method for determining its extent. When the clinic in New York City was opened, as already stated, over seven thousand addicts were registered, but it would not be proper to apply this figure in estimates for other communities in this State nor for the country at large. Reliable studies, however, give a national figure of approximately ninety thousand addicts who obtain their drugs in a legal manner, that is from pharmacists through physicians' prescriptions. If, in connection with this figure, is considered the extent of illegal addiction, it seems reasonable to believe that addiction is present in excess of .1 per cent of the population.

In the second place, through association and encouragement many addicts introduce drug taking to acquaintances. Again, the extent to which this occurs cannot be estimated, but it is considered a definite factor in the etiology of drug addiction. Removal of the drug addict and his rehabilitation does away with this factor.

Finally, an intensive study of drug addicts, carried through in accordance with the plan would not only give definite information concerning this particular group, but would also bring out facts which might have a very general application. The make-up of the drug addict is probably not unlike that of the great number of individuals who are unable to make their own adjustments and receive no real help in their difficulties. Drug addiction is an expression of this and comparable to other expressions of unsocial behavior in those of similar make-up. In spite of the general interest in this subject, there is no clear-cut agreement as to the proper handling of these unfortunates. The results of the rehabilitation plan should be a real and practical contribution to the more general problem. It should also emphasize and strengthen the widespread feeling that the problem of the adult unfit has its beginning in childhood.

Another matter which should be considered has to do

with the control of the rehabilitation experiment. It may be accepted that a government assumes responsibility for the welfare of its people, whether these are fit or unfit. Government control, however, deals commonly with established, practical procedures and is not given to carrying on by itself ventures which are experimental in character and therefore uncertain as to results. What exceptions there are to this have not always won universal approval. Further, in a political system, the appointment of those entrusted with carrying out a measure, whose success is as dependent as this on its personnel, does not usually result in the selection of those best suited for the purpose. It would be far better then if the plan were carried out by some outside organization, with private funds for the purpose, and its own carefully selected groups for planning, supervision, and management. Government aid, however, would be essential in the matter of legal commitments and an enforceable parole system. It might well furnish the land, and perhaps buildings, required and help in many other less tangible ways.

If such a plan as the one outlined is considered feasible in principle, the details must be worked out with great care. It should be recognized, however, that no rigid rules of procedure can be laid down, and that such changes as experience warrants may be made without undue delay.

In selecting a location and arranging suitable quarters a number of factors have to be considered. From the standpoint of the convalescent period, of some out-of-door life for general health improvement, and of complete removal from former environment, a locality away from the city is essential. With this, there is also less likelihood of the addicts' obtaining drugs from outside sources and no greater opportunity for their escape from the institution.

In view of the different types of addicts who would be gathered, it would seem advisable to have a unit system of housing rather than large common dormitories. In this way small and selected groups could be arranged for, which

would make easier the handling and reëducation problems. Special quarters are desirable for withdrawal treatment. Of great importance would be proper arrangements for occupational therapy since this is designed particularly for the purpose of preparation for positions after discharge.

To an institution of the kind contemplated, there would come all types and classes of addicts. If State or city aid were rendered, many of those would be of the type seen in workhouses. Others would apply, however, who have never been under police jurisdiction. But in all instances, there can be no hope of success unless legal commitment is made. This must obviously be for an indefinite period, the termination of which rests with the director of the institute. If after discharge and while on parole, readdiction occurs, there should be a return to the institution under the original terms.

It must be emphasized that the success or failure of the undertaking will depend upon those in direct charge, and particularly upon the director. The director should be a physician of sound judgment and experience, with a broad and sympathetic knowledge of human nature. He should also have the keenest interest in the problem at hand, an enthusiasm and perseverance to carry through work until such time as the results are thoroughly established. He would make clear that the institution was not a prison but a combination of hospital and training school. While men of the kind described are not commonly met with, there is little doubt that one could be obtained.

Closely associated with the director in his professional work should be a second physician, trained in psychological or psychiatric work. It will be largely through his efforts that an understanding of the mental make-up of each addict is obtained, and proper measures for adjustment and training carried out. There are younger men available for this work who would welcome its opportunities.

Among other members of the staff would be those having charge of the occupational therapy divisions, selected

because of their character and special training, and employees for the usual routine work. It is quite probable, as time went on, that many of the positions could be filled by those who have been inmates of the institution, and preferred life there to struggles with the outside world.

The procedure in regard to addicts committed to the institute should be uniform in principle. A withdrawal treatment can be carried through according to methods advised by the committee in charge of the Bellevue Hospital study. After the withdrawal, convalescent treatment is given for such time as is necessary. During this time an idea of the mental state and capacity of the addict can be obtained. The necessary steps are then taken for reëducation and training. No stated time for this can be given. In rare cases a few weeks may be sufficient, in others many months and in some a year or more. Those who have had experience with drug addicts will agree with the statement that during this period a fairly sharp differentiation can be made of curable, incurable, and doubtful cases. The disposition of those eventually pronounced incurable is not discussed here, as this is entirely a government problem.

Finally, some description of the parole system may be given. To be effective there must be provisions for a legally enforced parole period. Laws passed for this purpose are to be considered a continuation, and therefore a part of the original commitment laws. The period of parole, like that of commitment, must by the nature of things be indefinite, but two years would appear to be a minimum time.

The parole system in rehabilitation has many aspects. It is first necessary to create a sentiment in favor of giving positions to former addicts. The positions available, the nature of the work, and the environmental factors should be especially investigated. Knowledge of the addict, of his make-up, his aptitude, his training, and his own desires, would be available from the institute records. With these facts at hand it may be possible intelligently to place the

former addict in a position suitable to his capabilities. Once placed, his subsequent career for any time desired can be followed, and help offered when difficulties arise. There is, of course, a great difference between an ideal and its practical accomplishment and it would be unreasonable to expect that these features of the system would be uniformly successful. The actual facts, however, can be determined.

To offer real promise of success, it goes without saying that the parole officer must be an unusual individual. He must establish a standing with employers, and form and maintain friendly relations with the addicts. Above all he should have a deep interest in the problem itself and a confidence in the possibility of solution.

It is a relatively simple matter to draw up a plan for rehabilitation. How successfully it may be carried out, however, is another matter and can be determined only after the attempt is made and the results become evident. But that the idea is not Utopian is shown by the fact that a plan of similar purpose is at present in operation in California.

In 1927, the California legislature appropriated a sum of money for the establishment and operation of a colony for the rehabilitation of drug addicts. A large tract of land with buildings previously used for State purposes was set aside for the colony. It is situated outside of Spadra, a small town in Los Angeles County. The institution as at present arranged can take care of about one hundred inmates, who are committed by the superior court judges for an indeterminate period of from eight months to two years. The main effort in handling the addicts is directed towards physical restoration by means of graded exercises and outdoor farm work, but an industrial building is planned by means of which useful trades can be taught. There is a legal parole period with active supervision by the parole officer, who has had no great difficulty in finding places for those under parole. The director of the colony is Dr. Thomas F. Joyce, who has

had a large experience with drug addicts in New York City. He has taken up his work with enthusiasm and faith in the outcome. While it seems evident that the staff, equipment, and facilities for the work are far from what is desirable, nevertheless it is hopeful that such an experiment has been started. Its future course will be watched with much interest.

It is unfortunate that corrective measures for widespread evils are exercised only when these become notorious or intolerable. And when measures for relief are proposed, they usually take the form of prohibitory or punitive legislation. It is hardly believable, however, that this offers any permanent solutions, or that it is more than a useful adjunct to broader corrective aims. The aim in a study of rehabilitation is to determine the peculiar mental states and the conditions that give rise to this expression of maladjustment, to find out to what extent these may be removed, and to suggest the steps that may be taken for their prevention. An experiment carried out in accordance with the suggested plan and continued over a period of five years or more would be almost without precedent. It would conform to the requirements for any scientific study; namely, intelligent direction, adequate facilities, control of its subjects, and recording and evaluation of facts. Finally, the practical application of the knowledge obtained would be made clear.

THE SOCIOLOGICAL IMPLICATIONS OF DRUG ADDICTIONS

L. GUY BROWN

Drug addiction is not a simple problem. It is one habit that touches every aspect of the individual's life. Physiological functions, economic adjustments, and social status are all affected. Consequently, any plan of control must be based on an understanding of each phase of the problem. The sociological implications of drug addictions can be seen through the following social facts.

First: Drug addiction, when considered as an adjustment in life, is socially acquired. An individual comes into life without any of the characteristics that we regard as essentially human. He brings with him from his biological past only potentialities for developing human nature, but these potentialities are not directed towards any particular adjustment end. While these potentialities are absolutely necessary for developing human nature, it is organized society, man's social heritage, that makes his hereditary equipment significant at all for making social adjustments. So the biological process makes human nature possible by providing a great complex of innate capacity with an undefined potential content, but the type of human nature one develops will depend on the experiences he will have in the social process.

The important thing, then, about human hereditary potentialities is the fact that they are unorganized, and their organization depends on the experiences the individual will have in his social heritage. The individual comes into existence well endowed to make either normal or abnormal adjustments to life, or both. Each individual has a random behavior capital out of which it is possible for the individual to build an almost unlimited number of habits, either desirable or undesirable. At the outset

he does not have any definite appetites but has the capacity to develop many appetites. Even his hunger impulse is an undefined pain which makes it possible for him to develop an appetite for any food system in the world—Chinese, French, English, Bantu—no matter what his hereditary equipment may be, and no matter what his nationality may be. Not only is this true of the hunger impulse, but it is also true of the thirst impulse or any other impulse that may involve an appetite. The thirst impulse may be satisfied by water, wine, or beer, depending on the social heritage of the individual. Likewise any specific appetite or any specific desire is socially acquired. A person never has an appetite for anything he has not tasted.

So an individual starts life without any definite appetites but has the capacity to develop a predilection or an aversion for anything that may have been experienced. So there is nothing in the hereditary potentialities of an individual that necessarily has to lead to drug addiction. We are justified, therefore, in the conclusion that the habit is socially acquired. It is the social definition of a part of the undefined activity in the organism at birth. There are some who would say that the individual was a psychopathic constitutional inferior or he would not have acquired the habit. A study of many cases shows that most drug addicts did not start as psychopathic constitutional inferiors. So there is not any evidence in many cases that there was a defective underlying condition which led to drug addiction.

There is still another sense in which drug addiction is socially acquired. If a person is given morphine or some other drug in the hospital without his knowledge of the fact or without any previous information concerning the habit, he will not become a drug addict even though he suffers all the bodily "aches" when its administration has been discontinued. Unless his suffering is defined to him as being caused by a narcotic drug, he will not have a desire for the drug. He merely thinks of his "aches" as a part of his illness. He will suffer with them for a time

and then they will disappear without causing him to become an addict. If some one defines his pains as being the result of the use of drugs, and tells him that only the drug will relieve his pains, then his desire becomes specific, becomes definitely socialized, and he wishes for drugs, thus defining himself as a drug addict. But without this social definition of his symptoms, he would never develop a definite desire or become a habitual user of narcotic drugs.

The importance of this social definition can be seen by quotations from actual cases. As one person stated it:

"I said I did not know anything about dope when I went into the hospital. Well, I didn't, but I learned a lot about it while I was there. My bed was in a nest of dope fiends. It was my first contact with them. I laid there day after day listening to their talk. I heard them, one after the other, tell how they had acquired the habit and the awful times they had to get dope, and how they suffered when none was available and how people didn't understand their plight. I learned just what it meant to have the habit. I also learned all the tricks plied by a dope to get a shot when he needed it. I learned just what to say to a doctor, how to threaten him and how to prove to a peddler that one is a genuine dope and not a stool-pigeon. I learned how to take it when one breaks his needle or loses his gun. I learned how to make a 'plant' so one could have dope in jail if he got arrested. I learned the places where dopes hang out and where peddlers could be found, so you see I knew the game before I was forced to play it." (Case I.)

This individual could have left the hospital without being an addict had it not been for the social definition. While there may be organic pains, the individual does not have a desire for a narcotic drug until his pains have been defined.

There are even cases where an individual has never had morphine or any other narcotic drug, who when told that that was what was the matter with him, developed a desire for it and became a drug addict.

"I went to a small hotel on the west side after I had come from the city hospital. I was weak and still felt rheumatic. A man took the chair beside me and asked me what was the matter. I told him about my hospital experience. He smiled and said they had made a 'dope' out of me. He said only one thing would relieve me and took me to his room for a 'shot.' The pains left my back and shoulders. He sold

me a 'gun' and some 'dope.' A later investigation showed that I had not had any dope at all in the hospital. But I believed this man and became an addict." (Case VI.)

In many other cases there is another respect in which drug addiction is socially acquired. Individuals take their first try at the opium pipe or "shoot" their first morphine or "sniff" their first cocaine with a group, merely for the sake of a thrill. Persons in company with others, looking for some new form of relaxation from the routine of daily activities, venture into the unexplored fields of dope. It has been defined as a means of lifting one above an existence of monotony. Alone, the experiment would not be made. This is the story that comes from many who use dope. As one has said:

"When our day's work was done we often got together in the evening for some form of relaxation. Sometimes the girls would be with us and at other times the fellows gathered at the pool hall in the hotel where we often planned something for the evening. One night Dick joined us and told of a thrilling time he had had the night before in his first experience with an opium pipe. He suggested that we all try it together. We all went to the Chink's place and rather liked the stimulation that resulted. We went again and again until we had all developed the habit. I was frightened and tried to quit. Someone suggested morphine. I got a gun and started to shoot with some of the others. Now I am a morphine addict." (Case XI.)

This is the story that one gets from addict after addict.

Second: Not only is drug addiction socially acquired, but the habit is increased, in part, through social interaction. The novice in associations with others "shoots" as often as the "old timers." In describing this situation one addict made the following statement:

"We had used so much because of the strain; then with others you always use more. The whole crowd usually shoots with the first fellow who needs another charge. The heaviest user sets the pace for all the others. This is one way the habit grows. You become excessive with others and the first thing you know your system demands what you have given it. Nothing short of that will do." (Case I.)

Parties are another means of social interaction by which the habit is increased. This is evidenced by the description given of party experiences:

"I found one building in which twenty-five dopes were staying, men and women. . . . Several of the fellows in the group were pickpockets, and clever ones too when they carried the proper charge. When they were low and feeling bum they were more shaky and clumsy.

"The first night I was there one fellow returned with a 'touch' he had made of \$50.00. He had slipped it out of some one's pocket. He put on a 'C' (cocaine) party with the sum. It was the first 'C' party I had experienced, but I sat in on several after that although I never cared for 'Catherine' like I did for 'Margaret'.¹ We smoked cigarettes and shot 'C' all night. We sniffed it and we took it hypodermically. . . .

"We shot until daylight. I must have taken it fifteen or twenty times. I felt bum that morning as I was not a 'C' fiend. Before I left I took an extra large charge dose of 'M' (morphine) to counteract the 'C.'" (Case I.)

The social definition of the use of drugs has made it a secretive pattern of behavior and for that reason there are many fears in the minds of the addict. This social condition results also in the habit becoming accumulative.

"Time after time I have taken a shot when I didn't need it, thinking I might not have a chance when I was in agony. That is one reason why it is so expensive; a dope knows he must keep himself charged, so he never passes any opportunities if he can't see another one ahead." (Case I.)

This fear that plays such an important part in the life of the addict, functions in another way to increase the habit. Fear keeps the use of the drug constantly in the mind of the user until it becomes an obsession. This fact leads to "dope" holding the attention of the addict to the exclusion of all other interests. The following statement by a user shows how fear operates to keep the habit the cynosure of all activities and thus increases the habit.

"The habit was growing on me. It was taking more and more to get the desired effect. It took a grain and a half for the old junker to get a kick out of it. It frightened me to see him take so much. . . .

"How could a poor man meet the demand of an increasing dope habit? I wondered how great it would get. It was taking more and more to keep my old body charged. I worried each time the effect of a shot wore off." (Case I.)

¹Catherine and Margaret are terms used for cocaine and morphine.

Even this is not the only respect in which fear keeps "dope" constantly in the mind, tending to increase the use of it. Fear of apprehension or detection may have the same effect. The following is an instance of a user who ran into a policeman as he was looking for a place to secure "dope."

"She offered me a seat and pulled out her bottle and gave me a shot as I was getting pretty shaky after my experience with the cop and the excitement in locating the place. If a dope could be in a settled state of mind and not always expecting to be caught, a 'shot' would last longer." (Case I.)

Third: Not only is drug addiction socially acquired and increased through social interaction, but it is a habit difficult to terminate because of the presence of other addicts; that is, because of the social relationships of those who are not trying to quit. This fact is evidenced by the following description of the experience of one individual.

"About this time my State bonus check of \$365.00 came in. I gave my mother \$200.00 of this and kept the rest. I then started in on a globe-trotting trip. I really started with the intention of quitting the habit, but it took some time. I went to Kansas City. I knew the ropes now and soon made a connection. I bought \$50.00 worth from a doctor and then rented a room and figured on quitting. I entered the room with the feeling that one must have when he enters a death cell. I knew what a battle it would be but I had made up my mind. I knew I must go through all the agonies of a horrible death but I felt I must do it now or never.

"I had just begun to mix a reducing batch when some one knocked at my door. My first thought was 'the police!' I hid my dope. I opened the door and found standing there some fellows I had met on the road. They had got wise that I was in town and knew I had money. They filled my room day and night using my dope. The \$50.00 worth did not last long. My own habit had reached such proportions that I would have soon used it myself. Men and women of all descriptions flocked to my room. The landlady knew what was going on.

"I realized for the first time that I was a marked man throughout the country among dopes. For this reason it was going to be even harder to break off. I had become identified with dope fiends and had their habits to reckon with as well as my own. Unless I could shake my companions of the dope world I knew I could never quit. Secretly I hated them all, and worst of it all was the fact that I was one of

them. I cursed them all to myself. I cursed myself and I cursed the hospital officials who gave me the habit.

"I got another room and made a \$50.00 purchase and thought I'd try once more to break the habit. But the same thing happened. People I would have shunned before I became an addict forced themselves on me just because I was unfortunate in the same sense that they were. The only bond between us was dope. We were thrown together because we shared the same habit. I knew I would have to leave Kansas City. I rode the rods to Sioux City." (Case I.)

The termination of the habit is difficult for another sociological reason—the social definition of drug addiction and the attitude towards the user. The social definition is "once a drug addict, always a drug addict." This gives the addict his conception of himself and the awful realization that he may never be able to quit. Every contact he has impresses him with this fact and results in an attitude of resignation.

Fourth: The social definition of drug addiction forces the user to live in a collapsed social world. The importance of a collapsed world can be seen when one realizes how one acquires a social world in which to live and what it means to him in terms of attitudes, habits, social values, and philosophy of life, once it has been acquired.

As an individual comes into his social heritage he faces the problem of acquiring a world in which to live and the development of human nature as the subjective aspect of the world he acquires. At first there is not an object in his world that has any meaning for him. As he has experiences with objects, he defines them and develops attitudes towards them. The attitudes he develops give him his morals, his religion, his sense of beauty, his likes and dislikes, in fact, all the characteristics that we regard as essentially human.

His human nature always develops in terms of the social heritage that he has acquired as his world in which to live. He could not have acquired human nature without a social heritage and it is in terms of this social heritage, this social world that he has acquired, that he has his existence. His

human nature is valuable to him only in terms of the social situations in which he lives, and his social heritage is important to him only in terms of his human nature. It is in this sense that the individual and society are two aspects of one whole, as the late Professor Cooley has said.

So the individual has his very existence in terms of the world he has acquired. His habits, his attitudes, his occupational adjustment, his status, his conception of himself, are all in terms of the world he has acquired. The importance of this relationship is realized when something happens that causes the collapse of this social world and destroys the significance of the human nature he has developed.

In his social heritage there are taboos. There are certain patterns of behavior that elicit approbation and certain ones that draw forth condemnation. If one conforms, his status is secure; he is accepted; but if he proves to be a variant, his status is uncertain. If his nonconformity is too great, he finds that his social world collapses, and this is what happens with the drug addict. The human nature that he has developed and the world he has acquired lose their significance. They cannot function in terms of each other because of the social definition of the use of drugs.

It is the conception that one has of himself through the defining attitudes and movements of others that keeps the human nature he has developed *en rapport* with the world he has acquired. If these defining attitudes and movements are favorable, then his status is secure and he is well adjusted. If there is something in his behavior that is at variance with the accepted standards of his social heritage, then the defining attitudes and movements make his an unadjusted personality.

With the development of drug addiction, the members of his family, his friends, his relatives, give him a new definition, and he sees himself as an undesirable. In this way, he becomes an outcast. Not only may he be physically incapable of competing with others, but he cannot

continue his social relationship with others who were the most important objects of his world. Since he has developed his social nature and acquired the world in which he lives through approval groups, he is forced to go to other addicts for approval. The world that he built up and in which he had made his life adjustments has collapsed. So when he lives in terms of his past experiences, as one must live, he is living in a collapsed world. His old life adjustments have little significance for him. In the world of drug addiction he has only one adjustment to make, and soon drug addiction tends to crowd out the desire to make other adjustments. Thus he lives in a collapsed world. His old personality, his old patterns of behavior, his old habits and attitudes are of little service to him without their objective counterpart. The whole world he has acquired, his moral development, his attitudes are all different from the world (underworld) into which he must go where his pattern of behavior becomes a secretive pattern of dissipation.

The drug addict, in many cases, is no longer an intimate member of his family. He has disgraced the family name.

"I was the most miserable person on earth or I thought I was, at least. Here I was in the town of my own folks and couldn't go to see them. Dope had done it and I was not to blame. . . .

"After dark I slipped home and when I thought every one would be in bed. I wanted to go in but I had made up my mind not to go home until I could look decent and have the dope habit licked. I left a letter in the mail box telling them I had been there but was on my way going elsewhere. It was tough being at your mother's door and not able to go in, but that is what dope does for you." (Case I.)

The drug addict has to avoid not only his family as a result of the social definition but must avoid his friends as well. He does not have a confidant in the conventional world he has acquired. Society in general stigmatizes him with the attitude "once a dope fiend, always a dope fiend." The police think of him as a potential criminal ready to do violence to satisfy his appetite. His behavior has the

sanction of no one but his companions in misery. Even they exploit each other.

"I went to a pool hall. There I spotted a 'junker' at once. We both recognized each other at once, as dopes do, so we began to talk. I asked him where I could 'promote' and he directed me to Chinatown. He gave me the exact address where I could go. This information cost me fifty cents. That is the way one dope works another. You have to pay for your dope and you have to pay for your information." (Case I.)

The social definition can be explained in part because drug addiction is not old, especially in its present widespread use. Being a new form of pathological adjustment to life, it is passing through the usual stage when the attitudes concerning it are emotional and sentimental rather than scientific. While drug addiction is a pernicious habit resulting in physical and mental deterioration for the user, this fact is not any more important than the social definition of its use.

The attitude concerning the cure of the drug addict is a very significant part of this social definition. Being a new pathological social adjustment, it has attracted many with remedies who do not understand either the habit or human nature. A great number of exploiters have capitalized on the fact that a group of individuals (drug addicts) in society are looking for some solution, some way out of the awful predicament in which they find themselves. In most cases "cures" do not take into consideration the nature of human nature, the nature of the habit, and the social situation in which the habit developed.

These pseudoscientific methods of treating drug addicts usually do more harm than good. Failure after failure resulted in the rapidly growing idea that there is not a cure for narcotic-drug addiction. There were statistical cures, but the individual went out and was soon as much of an addict as ever.

The attitude towards drug addiction and other maladies shows great contrasts. A case of typhoid fever, venereal

disease, or any other disease is viewed by medical men as something that can be cured. These diseases involve certain pains and other symptoms that are genuine; they are not feigned, nor is the patient an antisocial individual who is blamed for his disease.

Contrast with this the situation in which the drug addict finds himself. He is told that his pains are imaginary and that he is a degenerate. He is accused of lying and deceitful practices. He is led to believe that there is some quality in the drug that leads to his pathological adjustments of lying, stealing, and surreptitious behavior, when it is merely his adjustment to a social definition. This definition goes on until he sees himself as a moral and intellectual degenerate with a deleterious habit that cannot be cured.

He finds himself physically incapacitated, economically insecure, morally degraded, and socially ostracized. Court actions, platform phillipics, newspaper columns, magazine articles, all impress on him the futility of trying to be understood outside the underworld.

No one has better understood the importance of this social definition in forcing the drug addict to live in a collapsed world than C. E. Perry, who has said:

"Relieve a drug addict from all fear of censure; let him become convinced that you believe he is entitled to a treatment for his condition, reasonably free from torture; treat him, in other words, as any other sick man, with the same sympathy that you accord the sufferer from tuberculosis or typhoid or from any other disease; assure him that, until a rational treatment can be secured, his physical need for his drug will be provided for at a price within his reach; remove him, in other words, from the world of contumely, in which he finds himself, to one of understanding—and you will find a man or woman so like yourself, when sick and weak and tired and frightened, that all thought of deceit, secretiveness, and fear, of a depraved or degenerate individual, must vanish from your mind. You will find a human being suffering from a disease with a definite pathology of its own. You will find a totally different individual from the one you expected to find, an individual who emerges at once, or, as soon as he may reasonably be convinced of the honesty of your attitude, into such a state of mental quietude, relief, and hope, as will completely destroy any remain-

ing illusions in your mind as to the intrinsic degenerating effects of opium. You will find a man or woman who hopes by day and dreams by night of relief from physical suffering, of removal from censure, and of understanding by his fellow beings; one whose hopes, ambitions, principles, and instincts, are very like your own, and you will further find that he will quite willingly, nay, eagerly, follow any suggestion for treatment and cure, which his own experience and knowledge of his body needs have not already taught him is useless or ineffectual."²

It is, then, the social definition of drug addiction that places the problem in the field of sociology, along with the facts that it is socially acquired, its use is increased through social interaction, and it is a habit difficult to terminate because of social contacts in the underworld.

²C. E. Perry, "Some Recent Experiments in Narcotic Control," *American Journal of Public Health and the Nation's Health*, XI (1921), 38-43.

NARCOTICS AND EDUCATION

E. GEORGE PAYNE and J. L. ARCHER

There has been much discussion among those interested in the prevention of the use of high-powered narcotic drugs of the place that education, and particularly education in the schools, has in the solution of the problem.

There are two opposing points of view, one contending that any publicity, particularly instruction of the adolescent, will have the adverse effect of increasing rather than diminishing the use of drugs and the number of drug addicts, and the second maintaining that a well-planned educational policy, carried out in the schools, will result in a marked decrease in the drug habit.

A letter from Mr. Blanco, director of the Anti-Opium Information Bureau of Geneva, in which he expresses himself in no unmistakable terms, indicates the attitude of one group. He says, "If it is still your aim to educate people not to take narcotics, I can only repeat that I do not wish to associate with any such movement. It is doomed to failure. It is a waste of time. Time could be better employed by striving for the rigid limitation of manufacture of narcotics, so that there be no surplus available for the illicit traffic."

On the other hand, Professor Counts, associate director of the International Institute of Education, has the following to say: "The prevailing notion that social welfare may be best promoted through restrictive legislation has met with serious setbacks in recent years and thinking people are coming to see that education provides the real means of adjusting the individual to the complex problems of his environment. One of the problems of adjustment grows out of the serious menace that is developing from the use of habit-forming narcotic drugs. We can no longer escape the necessity of giving emphasis to the facts relating

to drugs and the dangers arising from drug addiction to the adolescent who is facing a period of stress in his adjustment to the social life. The public educator has a distinct problem in preventing the further extension of this serious habit and menace to the social life."

The present article is based upon the result of a partial research into the educational situation in the United States. The effort in this research has been to carry out an investigation along three definite lines, with the purpose of ultimately determining what should be the policy of educators in the United States with reference to the facts relating to narcotic-drug addiction and the place of these facts in school curricula.

The three aspects of the investigation are as follows:

1. A research into the legal status or requirements relating to instruction in the various States
2. An inquiry into school practices throughout the country
3. An attempt to discover what school children know about drugs, and the source of their information

The first of these researches is quite enlightening and is summarized in the following table:

STATES REQUIRING NARCOTIC INSTRUCTION IN SCHOOLS

Alcohol.	44
Tobacco.	4
Narcotic drugs	48
Stimulants.	11
Public schools	47
Public elementary	47
Public high schools	42
Normal schools	41
Private schools.	1
Teachers examinations	5
No requirement	1

It will be seen that, while a requirement that the effects of alcohol be taught is made specifically in forty-four States

and instruction regarding the use of stimulants is required in eleven States, every State in the Union requires that the nature and effects of narcotic drugs be taught in the public schools. Whether this is fortunate or unfortunate is not a matter to be dealt with here but it represents the *status quo*; namely, that every State in the Union requires by law that the nature and effect of the use of narcotic drugs be taught.

Also it will be noted that in forty-seven States the laws require that emphasis be placed upon the effect of narcotic drugs in elementary schools, forty-two in high schools, forty-one in normal schools, and in one case in private schools. Only one State makes no requirements. Five States require that teachers' examinations include questions relating to the nature and effect of narcotic drugs.

Not only is this required by State laws, but the response to a questionnaire shows that, of 704 questionnaires returned from 5,000 sent out, emphasis is actually placed upon the nature and effect of habit-forming drugs. The summary of these replies is as follows:

RÉSUMÉ OF RESULTS OF QUESTIONNAIRE SENT TO APPROXIMATELY FIVE THOUSAND SCHOOL PEOPLE

Questionnaire answered by:

County superintendents	485
City superintendents	126
State superintendents	26
Colleges	5
Teacher-training colleges and normal schools....	48
Questionnaires received without name or address.	14

Total 704

1. Do you include instruction in the nature and effect of habit-forming drugs (other than alcohol and tobacco) in your curriculum?

Yes.	451
No.	205
2. Check the divisions in which instruction is included:

a) Senior high school	251
b) Junior high school	310
c) Grades	433

3. In what subject or subjects is the instruction included:

Hygiene	272
Physiology	247
Health	165
Biology	66
General science	60
Civics	19
Physical education	18
Citizenship	13
Sociology	11
Chemistry	9
Economics	8
Social science	6
Psychology	4
Character training	3
Athletics	2
Lectures	2
English	1
Nature study	1
General exercise	1
Dietetics	1
First aid	1
Industry and business	1
Problems of democracy ..	1

4. Has there been a discovery of the use of habit-forming drugs (other than alcohol and tobacco) among the school children in your city (school)?

No	658	Yes	7
Probably none	8	No report	31

It appears, therefore, from these data, that the educators of the country are actually beginning to take the problem of narcotic drugs seriously. Whether this emphasis should be given or whether any instruction should be included in the elementary or secondary curricula is a matter which may be partially determined through further research which is now in process.

In an attempt to discover what school children know about drugs and the sources of their information, a combined schedule and association test has been prepared and will be given to more than a thousand eleventh-grade students throughout the United States. An effort will be made to obtain a representative sampling by sending these

tests to every section of the country and by comparing results, as the tests are returned, to ascertain whether there are any significant differences between the different sections. Enough of the test is reproduced herewith to give the reader a clear understanding of its purpose and items of subject matter:

DO NOT SIGN YOUR NAME

Dear Student:

We are making a nation-wide study to discover what young people know about certain foods, medicines, stimulants, and narcotics. Will you coöperate by answering the questions and filling in the blank spaces below?

WE DO NOT WANT YOU TO SIGN YOUR NAME, SO PLEASE BE FRANK IN TELLING WHAT YOU KNOW OR IN EXPRESSING YOUR OPINIONS.

We greatly appreciate your help in this study.

Sincerely yours,

Department of Educational Sociology
New York University, New York City

Section A

(This section of the test provides spaces for information regarding age, sex, etc.)

Section B

PLEASE READ THESE DIRECTIONS CAREFULLY:

Look at LINDBERGH'S name in Column I below. Write ONE IMPORTANT FACT about LINDBERGH in this column, then WRITE FRANKLY YOUR OPINION OF LINDBERGH, or what you think of him.

Can you remember all THE IMPORTANT WAYS IN WHICH YOU LEARNED THIS FACT OR FORMED THIS OPINION? Was it from a newspaper? From a school textbook? Teacher? Friend? Radio? Movie? In some other way? Will you mention all the ways you can by filling in the spaces opposite "LINDBERGH" in Column II? BE JUST AS CAREFUL AND EXACT AS YOU POSSIBLY CAN.

After "Lindbergh," the following terms are printed in Column I of the test, in the order given: tobacco, milk, cocaine, alcohol, heroin, soothing syrups, veronal, opium, marihuana, morphine, oranges, dope, hashish, narcotics,

Column I

Example: LINDBERGH (one important fact)

If you can't
write a fact,
underline
"Uncertain"

(or)
"Don't know"

I hold this opinion about LINDBERGH:

If you can't
write an opinion,
underline
"Uncertain"

(or)
"Have no opinion"

Column II

Were you taught this fact in school?

Write "Yes," "No," or "Uncertain"

Tell briefly how you learned it:

If you can't tell,
underline
"Uncertain"

(or)
"Don't know"

Were you taught in school to hold this opinion?

Write "Yes," "No," or "Uncertain"

Tell briefly how you formed this
opinion:

If you can't tell,
underline
"Uncertain"

(or)
"Don't know"

Now turn the sheet and do the same for each of the other terms, "TOBACCO," "MILK," etc., taking them as they come.

If you can't fill in the spaces, underline as directed in the left margin, and also, if necessary, in the right margin.

PLEASE BE AS CAREFUL AND ACCURATE AS POSSIBLE. DON'T GUESS BUT TELL JUST WHAT YOU KNOW.

Ex Lax, codeine, laudanum, "sniffing snow," headache powders, and paregoric. There are twenty items altogether, excluding "Lindbergh," and of these twenty items only fifteen are regarded as relevant to the purposes of this investigation, since they relate, directly or indirectly, to habit-forming narcotic drugs as they are technically defined. Tobacco and alcohol are usually not classified as "narcotics" in the technical sense, for they do not commonly produce a complete depression of the central nervous system; therefore they are considered irrelevant in this test. The three other irrelevant items (there are five altogether) are Ex Lax, milk, and oranges. These five items are introduced for two reasons: first, to afford a basis for comparison; second, to conceal the purpose of the study. Since the test is designed partly to discover the student's opinions concerning narcotics, if this purpose were manifest he might immediately become biased.

A preliminary investigation has already been made in one of New York City's suburban communities where these tests have been given to one hundred students of the ninth, tenth, and eleventh grades. The results of this preliminary study will not only reveal the nature of the more extensive investigation which is now under way, but will also indicate several hypotheses to be tested as the study proceeds. A few of these results are presented below.

If the one hundred students in this preliminary investigation were familiar with each of the fifteen relevant items, they would be able to write 1500 statements. About one third of this number were actually written. The following table will show the number written for each item in the test:

Milk	99
Oranges	97
Alcohol	95
Tobacco	91
Dope	87
Cocaine	77

Ex Lax	63
Narcotics	59
Opium	55
Morphine	55
Headache Powders	38
Hashish	24
Soothing Syrups	21
Paregoric	18
Heroin	16
Sniffing Snow	15
Codeine	7
Veronal	5
Marihuana	3
Laudanum	1

Total for all items.....	926 (out of a possible 2000)
Total for 15 narcotic items..	481 (out of a possible 1500)
Total for milk and oranges..	196 (out of a possible 200)
Total for tobacco and alcohol	186 (out of a possible 200)
Total for Ex Lax.....	63 (out of a possible 100)

It is noteworthy that only 16 per cent of these one hundred students could write a statement about heroin, one of the most deadly of narcotics, and perhaps most prevalently used among drug addicts in the Eastern cities. The results in general, as revealed in the above table, indicate a wide unfamiliarity with narcotic terms as contrasted with tobacco and alcohol, which were, of course, familiar to virtually all of the students. A few of them failed to write about tobacco and alcohol doubtlessly because they felt unable to state an *important* fact.

Of the 481 alleged facts stated by these one hundred students, only 116, or about 25 per cent, were learned in school, indicating that the school in this community has slight relative influence in directing the student's learning of narcotics. Approximately 25 per cent of these 481 "facts" were judged by the writers to be accurate and spe-

cific; the others were either inaccurate, or indefinite in nature although accurate. Only approximately 21 per cent of those learned through classroom instruction were judged to be accurate and specific, and 30 per cent of those learned out of school.

The following will make clear what is meant by a "specific fact" as compared with a "general fact."

COCAINE

Specific Facts

(Taken from test materials)

1. Used by dentists when extracting teeth.
2. Used for operations as local anaesthetic.
3. It is a local anaesthetic.
4. It is a drug made from the coca plant.

General Facts

1. It is used as a dope.
2. Deadens pain.
3. It is a drug.
4. It is a drug and bad for your health.

It is difficult to judge the value of these general facts as compared with the specific, but it is assumed that general knowledge, even though it may be accompanied by right attitudes, is not so effective in promoting desirable behavior as specific knowledge accompanied by right attitudes. A very large proportion of those who gave specific facts also revealed intelligent opinions against the illegitimate use of narcotic habit-forming drugs; for example, for numbers 2 and 4 under specific facts above, we have these accompanying opinions:

Number 2. A useful thing for operations but harmful if used otherwise.

Number 4. It is both a useful and dangerous drug.

Of 1500 possible opinions from these one hundred students for the entire 15 narcotic items, slightly more than

25 per cent were stated. This may be attributed to either lack of knowledge or the possession of neutral attitudes (attitudes of indifference). About 20 per cent of these opinions were formed in school, and of the 323 negative opinions (opinions against these drugs) less than 25 per cent were formed as a result of school instruction, according to the student's statements. A very small proportion of these negative opinions were accompanied by specific knowledge. Out-of-school influences are about equal to school influences in determining student opinion of tobacco and alcohol, according to the students' statements. Therefore, in comparison with out-of-school agencies, the school has a much higher relative influence with tobacco and alcohol in this respect than with the 15 narcotic habit-forming drugs.

These results constitute valuable hypotheses for further investigation, and it is hoped that they may be tested adequately by the wider study involving several communities throughout the United States and a much larger number of students.

EDUCATION WITH REGARD TO NARCOTICS

RAYMOND SCHLEMMER

The consumption of the nervines (to use the modern and most generally correct technical term) obtained from opium, the coca leaf, and other natural or chemical substances, is increasing in proportions which their legitimate use in medicine and for other scientific purposes does not justify. It is now world-wide knowledge that their excessive production provides abundant material for supplying the pathological needs of drug addicts and for encouraging the propagation of the deadly habit. Regular consumers of narcotics can easily obtain them; they can carry out their vile work of proselytism—a tendency of addicts—without depriving themselves; and the enormous profits made by the traffickers through the illicit sale of narcotics encourage them to lead on with false promises all those who, being in pain, in depressed spirits, or being weak, restless, or perverted, seek relief, oblivion, excitement, or those “artificial heavens” described in an unhealthy type of literature. The number of drug addicts is continually increasing.

Well known are the disastrous effects of the immoderate use of these poisons on the individual, the family, and society; statistics clearly show how serious are the evils it causes, and its growth in all classes and in practically all countries is leading the world towards a danger which becomes daily more grave.

Public opinion—aroused by distressing examples of decadence and perversion, alarmed by scandalous revelations, and enlightened by individuals and associations whose humanitarian zeal has inspired them to fight against the evil—has disturbed the apathy of governments. Most of these bodies have taken steps to check the progress of the evil; but, unfortunately, their measures have so far proved

ineffective. The legislative and police regulations are soon (so it is at any rate hoped) to be strengthened, in spite of the clever and powerful opposition of both material and selfish interests.

It is not fitting here to discuss the measures proposed, but let us hope that those to be adopted will be efficacious, and that they will be strictly applied and produce the desired result. Those who genuinely wish success to the anti-narcotic campaign will do their best to see that this is so. But, without the coöperation of those who come under their authority, such laws are not all-powerful, and those who wish can easily manage to evade them. We must therefore teach the objects of these laws to those whom they are to protect, and point out the fact that, when not violated, they offer a positive advantage instead of the negative benefit of escaping penal regulations. If the fear of the police is the beginning of wisdom, then it is far from being perfect wisdom.

With a view, therefore, to the complete victory of civilization over the evil of which we are speaking, education has a very great part to play, as it has in all questions of reform with regard to a natural or acquired vice and of the future of humanity. But it is not sufficient merely to instruct children and young people in the dangers of narcotics. Adults too must be informed of them, and in view of the growing peril, the attention and vigilance of all must be kept keen.

But it is doubtless inadvisable to deal with narcotics in primary or secondary education—at least, in most national systems (such, it seems to us in Europe, is the opinion of educationists); there is hardly any country, with a developed system of public education in which children are exposed to temptations of the kind which give rise to drug addiction. To point out to them the harm, would merely confuse them; why talk to children on subjects of which they can have no notion nor even guess of their interest and importance—at any rate as regards material or practical

things? On the other hand, it might possibly arouse their curiosity—often only too eager, unfortunately—for knowledge of the forbidden fruit.

Except where children are in actual danger of the narcotic peril—that is to say, where it is in the immediate reality—it is better, I think, not to introduce the question in school or in religious classes. It is quite another matter as regards young men at the university or in advanced professional schools; these are in danger of being drawn into the drug habit; and they are capable of understanding the meaning and portent of what they are taught on this subject; they have arrived at an age when there is no longer any need for the master to be afraid of arousing in them an unhealthy curiosity, for they are already surrounded by demands of all sorts, amongst which they must learn to discriminate on their own responsibility and to recognize those which they ought to resist.

Dr. Payne has pointed out in a series of articles, and particularly in that one published recently in *Narcotic Education* (IV, 2, October, 1930), the need, the expediency—and at the same time the difficulty—of reaching students and their contemporaries of all types. Organizations such as the World Conference on Narcotic Education and its affiliated institutions, the International Narcotic Education Association, and the World Narcotic Defense Association, include in their program the distribution of wholesome information on the evil of drugs, and they aim at imparting this knowledge systematically amongst the youth of universities, higher professional schools, welfare agencies, study circles, and sports clubs. They endeavor also to make known the dangers of drug addiction to as many leaders and members of the public as possible. This work of distributing information is part of the universal education necessary to assure the essential resistive efforts of the individual, with the help of the social prohibitive measures in force.

But special instruction on the dangers of narcotics is not

sufficient. If the increase of drug addiction is itself an evil, it is also more the sign of a deeper, more serious, and more general evil. Our day is marked by a great lack of character and an unrestrained desire for pleasure. Man is afraid of pain and the effort of self-discipline.

Statistics show that a considerable proportion of drug addicts are doctors and male and female nurses, which is a clear proof that even in the science itself of the villainous effects of drugs there is not immunity from yielding to their allurements. No one is in a better position than they to understand and mistrust them. If they fall, it is not through ignorance; it is surely because, owing to their profession, most of them are led to consider suffering as an enemy to be overcome, and are accustomed to employ remedies to remove it.

Pain is a gift. Providence has desired its existence for imperfect humanity; Christ sanctified it, and by His life, His passion, and His death, has proved its redeeming value. It is a warning given to man when he violates natural and divine laws; if he pays attention to its first signs, he may often be able to reform his mode of living and avoid any aggravation; he will welcome it then as a timely signal, and instead of attempting to silence artificially this valuable warning note, will seek a means of preventing himself from ever necessitating its need again.

Pain is also a law against which it is useless to kick, for, in avoiding that which natural justice inflicts upon us, we merely postpone the penalty; in imagining ourselves exempt from punishment, we aggravate our follies; and the more our debt increases, the more we must suffer in order to liquidate it.

By pain man atones for sins against nature and against God—that is to say, his own sins and those of the society in which he lives, as well as those of his forefathers; if he were reasonable, he would welcome it as a deliverer.

The responsibility of parents towards children is tremendous; the Bible pronounces this clearly in the very be-

ginning of the Law: "Hear, O Israel . . . I the Lord thy God am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me, and shewing mercy unto thousands of them that love me and keep my commandments." How can we fail to recognize here the rule of hereditary sin, which begets sin and finally destroys itself, and of good, which perpetuates itself to eternity? Only by leading healthy and moral lives will men build up vigorous and prosperous nations, able to surmount difficulties, resist temptations, rise above failures, and acquire a horror of vice. It is by example that the older generation can influence youth, and the cultivated educate the more simple.

It is necessary, therefore, while still struggling against the individual aspects of these evils, which are manifestations of a more widespread danger, to go very much further and not be content with suppressing the symptoms, but rather seek out the causes and endeavor to find a cure for the great evil.

No one will deny that narcotics can be of use in therapeutics; but only in exceptional cases—when a relieving medicine of some kind is essential. Their value, however, is always counterbalanced by the fact that the patient is allowed to escape for the moment from wholesome pain. In my opinion, little value is attached to the argument, often put forward by the opponents of limitation in the production of narcotics, that it might cause a certain stinting of the supply required for medicine. It would be better from all points of view were they to be less used in therapeutics, than that they should be supplied in excess, even though strict control be exercised over their distribution. The common use of narcotics, even when not clandestine, is an abuse; we must not get accustomed to expelling pain like a dreadful, wicked, and useless intruder, nor to avoiding it artificially.

We must bring ourselves to accept it rather than fear it; and, in order to teach children to endure it, educationists

must aim at warning them against the facilities which material progress will offer them for ridding themselves of it without any just reason. They must be made to realize that suffering removed by fallacious methods will only return later in a more serious—if not more violent—form; that weakness is very much less likely than courage to deliver us from our troubles; that it is by living according to natural and divine laws that we avoid suffering or meet it without aversion and with strength to bear it and benefit by it.

Prevention is better than cure. It is important to annihilate the causes rather than to mitigate the effects of an ill. Drug addiction may be considered as a particularly characteristic reflection of the moral weakness of our time. Let us then note well its effects, and make use of the concrete knowledge it provides and the very visible examples before us of the results of the decadency towards which our civilization seems to be heading; so that we may show to those whom we wish to guide the need for acquiring the forgotten virile qualities and for loyally confronting effort and pain—the fatal results of wrong practices, instead of hopelessly attempting to escape.

ULTRA-VIOLET RAYS AND DRUGS

A. J. PACINI

Every one has heard of quinine. It is the active alkaloid extracted from the cinchona bark. The reputation of cinchona bark for the cure of fever was at an early period known to the Spanish Jesuits. When the Countess of Cinchon, wife of the Viceroy of Peru, fell ill with fever, the bark was administered to her, and speedily effected a cure. Its wonderful properties soon became known, and in 1638 its reputation spread throughout Spain under the name of Jesuits' bark. For many years the ground bark, mixed with port wine, was a favorite medicine. In the course of time, however, it became known that the principal ingredient in the bark responsible for the cure of fever (malaria) was the alkaloid quinine. The demand for this drug constantly increased. The South American forests were invaded for the bark and were soon devastated. New sources of supply were urgently sought. Chemists everywhere began their attempts to produce quinine synthetically. So far, all such attempts have failed; although in the course of the experimenting, some entirely new synthetic drugs have been furnished to the world, notably antipyrin.

Quinine behaves mysteriously in the presence of light. To begin with, its solutions in water fluoresce blue in the presence of sunshine, the fluorescence being due mainly to the shorter rays of light. Herschel and Stokes studied this action minutely and gave much impetus to the general topic of fluorescence because of their painstaking work. Forensically, the ability of quinine solutions to fluoresce, particularly the sulphate, still forms one of the more important means of detecting the alkaloid. Also, when plane polarized light is sent through a solution of quinine, it is veered to the left, the alkaloid being levorotatory, like the invert sugar of honey.

When a solution of quinine is exposed to ultra-violet rays, its behavior towards polarized light is changed. Such an exposed solution of quinine no longer rotates light to the left; instead, it rotates to the right. Examination of the transformed product at this point shows it to be another alkaloid, quinidine, which is sparingly present naturally in cinchona bark together with quinine. Physiologically, quinidine is much less powerful than is quinine as a febrifuge. Continued exposure of ultra-violet rays finally dissipates the quinidine which was obtained from the quinine, and there results now an acid solution due probably to cinchonic acid. At any rate, the acid solution is entirely free from febrifuge effect. Ultra-violet rays have lessened the physiological activity of quinine, and have transformed it optically from a compound which originally rotated the plane of polarized light to the left to one which rotates it to the right. This is called optical isomerism, and many drugs that are highly active in one isomeric state are converted by ultra-violet rays into the less active and opposite optical isomeric form. Adrenalin, the blood-pressure raising principle, is another example of a drug which behaves quite similarly to quinine under the action of the rays. There are a group of drugs, then, that change their optical form when exposed to ultra-violet rays; and in so doing, they either lose characteristic physiological action, or at least it becomes greatly attenuated.

Belladonna is a popular drug. At one time the purposeful chewing of the leaves from the belladonna shrub was indulged in by women seeking greater beauty—in particular, actresses. The noticeable effect of the habit was the marked dilatation of the pupils of the eyes. By this action the entire expression of the face was transformed by imparting a softness and gentleness to the sparkling eyes. Probably the shrub got its name, belladonna (beautiful woman), from this characteristic. The alkaloid to which all of this physiological effect is due is called atropine. Fitters of eye glasses use atropine considerably.

When atropine is dissolved in water, it produces an inodorous and colorless solution. If this solution is exposed to ultra-violet rays, the color of the solution becomes yellowish; but more important, an exquisitely delicate tuberose like odor is developed, rivaling the most cherished perfume.

It is commonly well known that odorous substances are remarkable in their strength. By strength is meant the minuteness of the quantity of the material which can produce the sensation of smell. Certain odorous principles, like musk, have a perceptible odor in such minute quantities as one two-billionth of a single grain; an amount so small that no chemist could possibly detect its presence. Yet, the sense of smell can detect and identify this infinitesimal speck.

The tuberose odor developed by atropine when exposed to ultra-violet rays is a useful property. Not only does it furnish a delightful perfume, but it serves the chemist as a means of detecting very small amounts of atropine. Thus, if the tiniest fragment of powder suspected of containing atropine is mixed with water and placed under a rich source of ultra-violet rays, such as a mercury vapor lamp in quartz, the development of the odor quickly and surely identifies the alkaloid. Iso-eugenol, a drug derived from oil of cloves, acquires a vanilla odor when similarly treated. Indeed, iso-eugenol becomes vanillin under the action of ultra-violet rays. There is another group of drugs, then, including atropine, iso-eugenol and the like, which respond to ultra-violet rays by becoming odorous compounds.

Mischievous school children, sometimes others, wander into the "trick" shop and purchase sneeze powders with which to play pranks. Such sneeze powders contain a mixture of alkaloids collectively called veratrine. Veratrine is an intense local irritant. Rubbed on the skin, it produces at first a pink blush, later an eruption. The skin also becomes numb, and it tingles. Sniffed into the nose, a violent attack of sneezing at once begins and persists

until the last trace of veratrine is expelled. It is this sternutatory action of veratrine that invokes its offensive and loathsome use by pranksters.

Veratrine curiously affects the muscles of the body. When administered in fairly large amounts, it causes an extraordinary prolongation of the contraction of the skeletal muscles.

At least two changes are observed in veratrine that has been exposed to ultra-violet rays; the sneeze-eliciting property is lost, and the muscle response is more nearly normal. To a lesser degree, the numbing and tingling of the skin is no longer sensed. Veratrine is completely denatured by treatment with the rays. The change in the muscular action of veratrine deserves study, as it may throw some light of a helpful nature on the synthesis of drugs that can react on skeletal muscles. Such drugs are rare and would probably be much desired by physicians.

By no means do ultra-violet rays invariably deprive certain drug materials of their characteristic activity. There are instances quite to the contrary, where inactive substances take on a most remarkable property. Such an example is that of ergosterol, obtained from ergot.

Ergot, as is known, is produced in considerable quantity in the sunny regions of Spain. Ergot represents the hard, resting condition of a fungus, *Claviceps purpurea*, which is parasitic on the pistils of many members of the grass family, but is obtained almost exclusively from rye. There may be extracted from ergot a fat-like material called ergosterol, a material which has only recently won considerable attention because of its singular physiological potentiality. However much rye pistils are exposed to the blazing Spanish sunshine, the ergosterol extracted from the sun-bathed sclerotium is physiologically inert. It passes through the digestive tract without apparent change. But if, after once extracted from the sclerotium, the ergosterol is now exposed to sunlight, even though for the briefest period of time, it acquires the property of preventing and

of curing rickets. So potent is this action that the barest trace of exposed ergosterol, rivaling the highest dilution of homeopathic practitioners of medicine, is pronouncedly effective in its cure.

At first thought, recalling the properties of the ultra-violet rays of sunshine which are thought by many to be alone responsible for the transformation of ergosterol from inactive to antiricketically active material, it may be conjectured that the heavy coloring matter accompanying the ergosterol in the sclerotium acts as a protective shield obstructing the shorter ultra-violet rays of the sun. If this were so, then a simple experiment would suffice as proof. Suppose the ergosterol be extracted from the rye. Suppose some of the coloring matter of the sclerotium, a purplish pigment, be similarly extracted. Suppose now that the pigment and the ergosterol be mixed. Obviously the exposure of this material to sunlight should remain unaltered, if the pigment truly protects the ergosterol. But actual experiments have proved otherwise. Indeed, the effect of adding the pigment to the ergosterol is that of enhancing the effect of sunlight for now, instead of sunlight remaining inactive, it is found that the same quality and quantity of sunlight actually transforms more of the ergosterol to its antiricketic constituent. The pigment has acted as a sensitizer, much like the dyes that are used to bathe the photographic plate in order that the emulsion may respond more rapidly to light. Clearly, the pigment is not a screen against effective rays. If anything, it fosters the transformation of inactive to active ergosterol, but only outside of the plant.

Present-day imitations of cod-liver oil are prepared by irradiating ergosterol with synthetic sunshine and dissolving the product in an agreeable oil, like peanut oil. It is correct to say "imitation cod-liver oil," because activated ergosterol only imitates what cod-liver oil can do. For example, irradiated ergosterol, like cod-liver oil, splendidly cures rickets in rats; but different from cod-liver oil,

the imitation is very much less effective in curing rickets in chicks. Too, cod-liver oil contains other vitamins, such as vitamin A, which assist the action of the rickets-curing component (called vitamin D); and these additional properties are as yet missing from the synthetic.

This raises an interesting point: the drugs mentioned so far are all products of plants where they have been formed by the indirect action of photosynthesis. Photosynthesis depends largely upon chlorophyll for its success. Of course, such terms as photosynthesis and chlorophyll are by no means explanatory. They remind one of Ruskin's subtle jibes at scientific nomenclature, recorded in his *Queen of the Air*, in 1869: "When I want to know why a leaf is green, they tell me it is colored by 'chlorophyll,' which at first sounds very instructive; but if they would only say plainly that a leaf is colored green by a thing which is called 'green leaf,' we should see more precisely how far we had got." Too often, even scientists are stopped with a name, overlooking entirely the singular truth that merely to name a thing or a process by no means explains it.

Now, photosynthesis is involved directly with the manufacture of rather simple substances, like the most elemental sugars and starch. If it is related at all to the manufacture of the highly complex drugs it is thought that the relation is most indirect. But we have just seen that ultra-violet rays, which are abundant in bright sunlight, modify the very drugs that are removed from the plant in which they have been exposed to actinic rays. Obviously, the plant seems to take on a new rôle. Not only does it produce simple compounds by the intermingling of the gases of the air, the moisture from the soil, and the sunlight of the day; and from these simple compounds, by agencies other than light, not only does it produce very complex substances which we recognize in part as drugs; but having produced these substances, it protects them from sunlight so that they may not be altered or decomposed.

Another of the many fascinating effects of ultra-violet rays is to be found on tobacco. Tobacco, next to salt, is supposed by some to be the article most extensively consumed by man. When the weed first reached England, King James opposed it by his *Counterblaste to Tobacco*. Pope Urban the Eighth issued a papal bull against it. Russia legislated that the knout be the penalty for the first offence, death for the second offence. Everywhere opposition and persecution were levelled against the use of the plant. It seems that opposition and persecution merely excited more general attention to tobacco, awakened curiosity in respect to it, and tempted all the more people to try its effects. It is seldom that prohibition prohibits.

There are many varieties of tobacco plants, but they all begin from a seed smaller than the head of a pin. If the seeds are tested for nicotine, which is the principal but by no means the only alkaloid in tobacco, they are found to be completely devoid of the drug.

Suppose the seeds be sprinkled on a moistened blotting paper and, in a moist condition, kept at an even, ordinary temperature in a photographic dark room. After some six or seven days they sprout. After about three weeks, the sprouts are some one-quarter inch in length and are topped with tiny, green leaves. Remember, the seeds have sprouted in the absence of any light, even artificial light. If they are now tested, the sprouts are found to contain nicotine. From hence on, whether light reaches the sprouts or not, the amount of nicotine in the plant steadily increases. For a given variety of tobacco plant, grown in a known location, it is possible to tell with considerable accuracy the very age of the plant itself merely by determining its nicotine content. Thus, nicotine is apparently not dependent upon the presence of light for its appearance in the tobacco plant. We know that in tobacco fields where the plants are purposely under shade covers, the nicotine content is not appreciably different from similar plants grown in open sunlight.

A green tobacco leaf is useless in its original form. Before it can be consumed, it must undergo a "cure." Tobacco curing is a process of gradual starvation, so timing the starvation that the death of the leaf shall occur only after definite starvation changes have first appeared. If a green leaf is first killed, and then a cure attempted, it merely rots. Ultra-violet light has an entirely different effect on the green leaf as compared with the effect that it produces on the properly cured leaf. Since we shall concern ourselves entirely with the changes sustained by nicotine, we may first profitably examine what happens to nicotine when this is exposed to ultra-violet rays. Opposite to quinine, solutions of nicotine as it is obtained from its natural source rotate the plane of polarized light to the right. If nicotine is prepared synthetically, which was first accomplished by Pictet and Rotschy, it either has no optical property or it rotates polarized light to the left. The optically inactive forms of nicotine, as well as the form which rotates to the left, are not as violent in their poisonous effect as natural nicotine. Nicotine is one of the deadliest poisons known, being rivaled only by hydrocyanic-acid gas in the rapidity of its action.

When a solution of nicotine is exposed to ultra-violet rays a number of intricate changes take place. After very prolonged exposure, all of the nicotine has disappeared to become replaced by an acid, nicotinic acid, which is believed by some to be identified with the growth-promoting vitamin B. At this stage of exposure, the solution is no longer poisonous, it having been completely detoxified by the action of the light. However, much before the nicotine becomes nicotinic acid, the toxicity of the solution is diminished. It is probable that a series of intermediate products are formed, some of them very closely resembling nicotine except for their lack of toxicity.

Only a part of the nicotine found in tobacco is present in a more or less "free" state. The largest portion seems to be combined with common organic acids like malic and

citric. In fact, tobacco leaves contain a higher percentage of malic (apple) acid than is contained in apples, and a higher percentage of citric acid than is contained in citrous fruits, especially the lemon. Incidentally, tobacco leaves also contain a higher percentage of oxalic acid than is found in sorrel leaves or in rhubarb. The malate and the citrate of nicotine are not readily volatile and are easily burned. During the actual burning of the tobacco much of the nicotine is consumed in the combustion. But the loosely combined or "free" nicotine is highly volatile; so much so that the heat of the burning portion of the tobacco suffices to vaporize the "free" nicotine. The vapor is aspirated into the mouth during the puffing of the smoke. It is to this small trace of escapable nicotine that tobacco exerts such harms as are accredited to this alkaloid. Fortunately, not only is this amount quite small, but the human organism is endowed with a mechanism which seemingly makes the individual more and more tolerant to increasing amounts of nicotine.

If a green tobacco leaf is exposed to ultra-violet rays, it is almost instantaneously killed. In this killing, the nicotine remains unaltered, and the leaf is no longer suitable for curing and for smoking. But the case is different when a cured tobacco leaf is exposed to ultra-violet rays. Relatively brief exposures attack the "free" nicotine and detoxify it completely. At this stage the exposed tobacco leaf contains its original amount of combined nicotine and contains its small trace of "free" nicotine in a changed, detoxified form. Obviously, smoking the leaf at this stage is fraught with less danger than is the case of an untreated tobacco. However, if after the "free" nicotine has been detoxified, the tobacco is still more exposed to ultra-violet rays, it again acquires its original toxicity; for ultra-violet rays now attack the combined nicotine, at first splitting it away from the malic and citric acids to which it is attached. This splitting results in the accumulation of more "free" nicotine, and the original harmfulness returns to the

tobacco. If the exposure is continued still longer, the same cycle of changes as are originally observed are repeated; the newly formed "free" nicotine is detoxified and only combined nicotine remains. So, the exposure of cured tobacco to ultra-violet rays results in the alternate detoxification and retoxification of the product as measured by the amount of "free" nicotine that is transformed and re-formed.

This cycle of events is somewhat characteristic of the action of ultra-violet rays on many substances. Sometimes the cycles alternate through many repetitions; at other times the cycles are few. The cycle of detoxification and retoxification of tobacco can be repeated innumerable times; but in the case of ergosterol, which was mentioned above, the situation is quite different. Here, the inactive ergosterol becomes antiricketic after a given exposure to the ultra-violet rays; but if the exposure is prolonged, the antiricketic material loses its activity, and the cycle ends since the lost activity is never again reimpacted to the ergosterol no matter how long the exposure is continued.

There is hardly a drug that is not in some way influenced by exposure to ultra-violet rays. The general tendency of the light is to reduce the toxicity and split the product into simpler components. On the other hand, exceptions are found in those materials which respond to ultra-violet by acquiring a new and oftentimes startling physiological effect. Needless to say, the alkaloids such as strychnine, morphine, and cocaine in addition to the ones already mentioned have been studied attentively. But other products like the glucosides and active principles characteristic of the numerous plants used medicinally are also photolyzed under light. In many instances the response of the product to ultra-violet rays is not the same when the product is in the plant as it is when the product is outside of the plant; but in quite a few cases, judicious exposure to ultra-violet light can effect profound changes in the narcotic properties of the so-called narcotic plant.

Narcotic plants, as they are called, are still widely and abundantly used. Their consumption constitutes a huge economic problem with many far-reaching tributaries. Just why narcotic plants have been used to solace the mind and the body of man, if they produce solace, is difficult to account for. But among the many scientific uses of ultraviolet rays, the possibility of denaturing the narcotics looms up to assume practical proportions. If such denaturing proves successful, the use of the narcotic will be transformed into a symbol which, probably, may be sufficient to appease the human urge that calls narcotics into general use for nonmedical purposes; but the use of the symbol will not be attended with the harmful risk of mental and physical disability to which the human frame is exposed by this form of abuse.

RESEARCH PROJECTS AND METHODS IN EDUCATIONAL SOCIOLOGY

In order that this section of THE JOURNAL may be of the greatest possible service, its readers are urged to send at once to the editor of this department titles—and where possible descriptions—of current research projects now in process in educational sociology and also those projects in kindred fields of interest to educational sociology. Correspondence upon proposed projects and methods will be welcomed.

RESEARCHES OF THE COMMITTEE ON DRUG ADDICTION

In 1921 the Committee on Drug Addictions, a small group of seven persons, was organized to investigate narcotic addiction with a view to suggesting rational preventive and control measures.¹ It has been in existence for some ten years and has been financed by the Bureau of Social Hygiene. It has devoted itself entirely to research. Two lines of investigation were followed; one, involving the study of the individual drug-user; the second, a study of the social aspects of the problem. A bibliography of seven thousand titles was collected and a report on *The Opium Problem* was published in 1928.²

The Committee has continued its investigations by subsidizing laboratory research on the effects of drugs on animals; by making clinical studies of human beings during periods of addiction, withdrawal, and abstinence; and by carrying out medical and sociological field studies in various American communities. The findings of the Committee along these lines have been published from time to time in scientific journals and the results of the field studies have been published in pamphlet form by the Committee during 1930.

The general position of the Committee has been that "more fact and less opinion was needed for an understanding of the many and varied aspects of the problems involved in the use and misuse of narcotic drugs."

¹The work of this committee is described in the 1929 Social Work Yearbook (New York: Russell Sage Foundation, 1930), page 148.

²See Dr. Charles E. Terry and Mildred F. Pellens, *The Opium Problem* (New York: Bureau of Social Hygiene, 1928).

AMERICAN WHITE CROSS ASSOCIATION ON DRUG
ADDICTION

In April 1930, the Committee on Drug Addictions of New York was merged with the American White Cross Anti-Narcotic Association to form the American White Cross Association on Drug Addiction, the national office to be in Seattle, Washington, with possible administrative or bureau offices in New York and other cities. The purpose of the former White Cross Association has been largely to educate the public to certain points of view with regard to the eradication of the illegitimate use of drugs. The merger has been accomplished in order to give the scientific backing of the New York Committee to the educational and propaganda work of the White Cross Association and to make further research along the human lines. The New York Committee gains by making its research findings and experience useful to an agency engaged in promoting a practical program. A committee of the new Board of Directors will take up the matter of organizing a research bureau.

The purposes of the new association are stated in the articles of incorporation as follows:

1. "The study and promotion of repression and ultimate prevention of the preparation, distribution, and use of narcotic drugs, except for medical and scientific purposes."
2. "The promotion of scientific investigation of the nature and effect of narcotic drugs."
3. "The encouragement, and establishment, when deemed necessary, of institutions, laboratories, or other agencies for making and demonstrating the practical application of information acquired through research."
4. "The promulgation of useful, scientific, and sociological information for community, State, and federal benefit."
5. "The study of rehabilitation of drug addicts."

6. "The advocacy of farms, clinics, hospitals, or other institutions as may be deemed desirable for the rehabilitation of addicts."
7. "The combating, through special national and international measures, of all illegal and injurious uses of narcotic drugs."
8. "Such other activities as may be related to these general purposes."

The organization is governed by a board of directors composed of not more than 85 members, 36 of whom are elected at large, the remaining number to be chosen not more than one from each of the 48 States and the District of Columbia. The board of directors elect an executive committee of seven members including the president and secretary ex-officio.

NATIONAL RESEARCH COUNCIL STUDIES

The Division of Medical Sciences of the National Research Council set up a special committee on January 1, 1929, for a three-year study of morphine with reference to its chemical and pharmacological properties. The reports of this study have not as yet been published.

NARCOTIC EDUCATION IN AMERICAN PUBLIC SCHOOLS

The problem in this investigation³ may be stated as follows:

1. To ascertain what efforts are made in narcotic instruction throughout the United States according to the testimony of school superintendents and other school administrators
2. To discover what knowledge of narcotics is possessed by high-school juniors throughout the United States
3. To determine the source or sources of this knowledge
4. To discover the nature and source of opinions concerning narcotics held by high-school juniors throughout the United States

³This study is being carried on by J. L. Archer under the auspices of the department of educational sociology of New York University.

An inquiry has already been sent to five thousand school administrators chosen at random throughout the United States for the purpose of learning the nature of attempts at narcotic education, the specific subjects in which narcotic information is taught, etc. A test and questionnaire is now being prepared for high-school juniors with the assumption that results obtained from these eleventh-grade students will be fairly representative of attempts at narcotic instruction in both the elementary and secondary levels. These tests will be distributed at random to various schools throughout the country and will be given to students with the view of obtaining as accurate and objective results as possible. The results will be classified, statistically treated, and interpreted in a treatise which will probably be published when completed.

PUBLIC-HEALTH-SERVICE STUDIES

Two studies embodying further observation on the epidemiology of narcotics and drug addiction have been reported by W. L. Treadway, surgeon, Chief of Narcotics Division, United States Public Health Service.⁴ These studies were made in coöperation with the Deputy Commissioner of Prohibition in charge of the enforcement of narcotic laws. The information was obtained directly from the field and embraced certain individual and social data on each violator. These studies deal with 432 reported violations for July 1929, and 2,407 violations reported for the four-month period beginning July 1, 1929, and ending October 31, 1929. They deal with the percentages of registered and unregistered cases; the distribution of the unregistered cases; the charges in each case made by sex; the ages in five-year periods of male and female addicts by color; the birthplace of addicts and their parents; the education of addicts and the age when leaving school; the uses of alcohol by addicts; the age at which addiction was established; the kinds of drugs used, dosage, and the

⁴The first of these is contained in *Public Health Reports*, November 8, 1929, pages 2702-2704. The second is in the issue of March 14, 1930, pages 541 and 553.

method of administering drugs; the reasons given by addicts for the use of drugs; and the number of treatments taken for addiction.

MAYOR'S COMMITTEE (NEW YORK) STUDY OF ADDICTS

In November, 1927, the Mayor's Committee on Drug Addiction was appointed to study the subject in the City of New York and to make recommendations. This was done at the instance of Commissioner of Correction Richard C. Patterson, Jr., who was confronted with the treatment of fifteen hundred addicts annually in his department. Previous to his administration there had been no systematic or uniform method of handling these cases in departmental divisions. This committee was composed of Dr. Alexander Lambert, Chairman, and Drs. Stanley R. Benedict, Menas S. Gregory, William R. Williams, Thomas A. McGoldrick, Israel Strauss, Linsly R. Williams, and George B. Wallace, with two advisory members.⁵

The primary purpose of this study was to establish a satisfactory method of treatment for the withdrawal period of drug addiction, but in addition to obtain information on the physical and mental status of the drug addict and to investigate the possibilities of rehabilitation.

A total of three hundred and eighteen addicts were studied in a ward of the psychopathic division of the Bellevue Hospital under the direction of a full-time medical staff consisting of Dr. Charles Schultz, assistant alienist at Bellevue Hospital, and assistants, together with carefully selected nurses and keepers. The men studied were committed voluntarily by a city magistrate. This study continued approximately one year. The committee held weekly conferences on these cases and daily rounds were made by its members. A case record was made of each case, including a full history and physical examination, a psychologic grading, routine laboratory tests, and, in certain cases, extensive blood analyses. The symptoms occurring in the

⁵The report of the Mayor's Committee was reprinted in the *Journal of the American Medical Association* of October 26, 1929.

hospital and the results of treatment were recorded in detail.

Space here does not permit recounting the findings of this committee. It may be interesting to note, however, that of the 318 addicts studied, 83 per cent admitted criminal records. About half of these were arrested because of the possession of narcotics and the remainder had records of conviction on such charges as larceny, burglary, assault, carrying concealed weapons, and homicide. "Of the group, 230 had received a public-school and 64 a high-school education, while 18 had attended college. Six had not had any schooling." Heroin was the drug commonly employed, being used by 263 addicts. Morphine was taken by 31, while only 4 used cocaine. All but 39 of this group had received previous treatments to cure the habit. More than half the group had taken the cure four times or more.

The conclusions of the committee with regard to treatment during withdrawal may be summarized under four headings.

1. "None of the substances forming the basis of the so-called specific cures for drug addiction bring about amelioration or shortening of the withdrawal symptoms."

2. "Depressants of the central nervous system are ineffective or not practical as substitutes for opium derivatives."

3. "The quickest and simplest method of stopping the addiction is that of abrupt withdrawal of the narcotic taken." This should only be administered in cases where patients have no serious organic degeneration or disease, are not of advanced age, and are not suffering from marked malnutrition.

4. "The most humane form of treatment is that of giving progressively decreasing doses of morphine." This is recommended for all patients whose general condition does not warrant abrupt withdrawal.

In regard to rehabilitation, the committee concludes that "no form of treatment for the withdrawal of addiction to

narcotics is in itself capable of stopping the craving for the drug." "The real problem is that of ridding the addict of his habit permanently or at least over a long period of time."

The committee enunciates such basic principles as follows:

"The end in view is to bring about an adjustment of the addict to an environment which allows him to maintain his self-respect and become of use to the community; in other words, to end his being a continued expense and even a menace to the city and make him a self-supporting, productive citizen." In order that this may be accomplished the committee recommends vocational training and placement and supervised probation over a period of years. The staff for carrying out such a program must be superior and must include social workers for follow-up work. The location of the institution in which cures are to be administered should be chosen to avoid the possibility of smuggling in drugs and should avoid the appearance of a prison. Control of the behavior of the addict must be vested in the institution during the period of commitment which be of sufficient length to enable a completed cure. Owing to the expense involved, it is recommended that the City of New York coöperate with some outside group which has a rehabilitation scheme on its program.

NEW YORK NARCOTIC SURVEY COMMITTEE

The New York Narcotic Survey Committee was organized in June 1929, under the chairmanship of Charles H. Tuttle, then United States District Attorney for New York City, with John I. Cotter, Chief Clerk of the Court of Special Sessions for New York, as executive secretary. The committee includes a number of the New York judges, City officials, and others interested in the narcotic problem. It is making reports to President Hoover's National Committee on Law Observance and Enforcement.

The first report of the Committee submitted early in 1929 dealt with drug peddling.⁶ It consisted of a study of the past records of all persons arrested for such offenses during the second quarter of 1928, made in coöperation with the Narcotic Bureau of the New York City Police Department. One hundred persons were arrested during this period for the illegal sale of drugs. Fifty-two per cent of these had formerly been convicted of felonies and fifty had been arrested previously from five to seventeen times. Seventy-seven persons of the one hundred had a total of 360 previous misdemeanors and convictions. A study of the social and economic backgrounds of these drug sellers would be interesting.

The second report of the Committee dealt with the 563 cases of the noncriminal type of drug addicts treated in a private hospital.⁷ The study dealt with the following points:

1. Etiology
2. Duration
3. Industrial activities and employment
4. Ages
5. Recidivism
6. Drug use leading to addiction

The third report of the Survey Committee was made in December 1929. It included a study of 550 cases of drug addiction, 417 males and 133 females, from the records of the Metropolitan Hospital of the City of New York covering a period from January 1927 to July 1929. The Metropolitan Hospital on Welfare Island is the institution provided by the City with a special division for care and treatment of drug addicts of the noncriminal type. This study was undertaken to establish facts with regard to addiction and its relationship to public-hospital treatment for purposes of comparison with private-hospital treatment studied in the previous report.

⁶This is summarized in *The Panel for June, 1929*.

⁷Reported in *Narcotic Education*, October 1929, pages 27-29.

The fourth report of the Committee was made in the fall of 1930 and covered the criminal records of 832 cases, 732 males and 200 females, treated for drug addiction at the Correction Hospital of the City of New York, from March 1927 to June 1928. This does not include the most dangerous male addicts who were treated in the medical division of the State Penitentiary. The chief purpose of this investigation was "to ascertain the extent of the criminal and antisocial histories of convicted and committed addicts."

BOOK REVIEWS

The Opium Problem, by CHARLES E. TERRY and MILDRED PELLENS. New Jersey: The Haddon Craftsmen, 1928, 928 pages.

In 1921 the Committee on Drug Addiction of the Bureau of Social Hygiene was organized for the purpose of undertaking research into the general problem of drug addiction, its nature, its causes, and the procedures best suited to its ultimate solution. This event, the appointment of the Committee, marked a new era in the attempt to solve what has come to be a complex and vexing problem.

The appointment of this Committee for research purposes marked a new era because of the beginning of a scientific approach to the study and control of opium and the treatment of drug addicts in contrast to the emotional approach characteristic of previous efforts. This Committee undertook to discover answers to the following questions:

1. a) What is the extent of the chronic use of opium and its derivatives?
b) What causative factors were involved?
2. What is the etiology of chronic opium intoxication?
3. What is the nature of chronic opium intoxication?
4. How should this condition be treated?
5. How may the problem of chronic opium intoxication be solved?

There have appeared numerous statements as to the number of drug addicts in the United States, ranging all the way from 200,000 to 2,000,000. This Committee cast aside these undocumented statements and set out to determine, from all the data available, the approximate number of addicts and the seriousness of the problem. The care and conservatism with which the investigation was carried on is indicated in a statement relating to the extent of drug addiction.

Whatever their inaccuracies, these surveys and estimates indicate sufficiently clearly the existence of a major medico-social problem to make the denial of the existence of a general situation far more dangerous than its affirmation. As a matter of fact, it is not necessary to know the exact number of users or even the minimal extent, to realize that there are a large number in the country and that the problem is serious.

The same care in evaluating data is shown in suggestions relative to control of opium usage when the authors say:

Here have been recorded explanations varying from the vicious, deliberate habit theory to the extreme of the combinations in between. This is fundamentally a matter for accu-

rate determination, as at least one essential preliminary to any plan for complete solution. Yet there is not a single variety of view which from the evidence adduced is so well supported or so thoroughly demonstrated to be correct as not to admit of doubts in the minds of any who might attempt to base thereon a program purporting rationally to solve the problem. In other words, certain of the fundamentals for the solution of the problems comprised in chronic opium intoxication are either not known or not sufficiently well-established to permit an unbiased advocacy of any single method of procedure.

This book represents the most elaborate body of data so far gathered and is indispensable to the student of the opium problem. However, it is more than a source book of facts. It is a book that serves a wide function in acquainting the layman with the status of the drug problem and is superior, for the educator, to all other books published. It should be available for every teacher responsible for the education of children.

E. GEORGE PAYNE

Opium, by JOHN PALMER GAVIT. New York: Brentano's, 1927, 251 pages.

Opiate Addiction, by EDWARD HUNTINGTON WILLIAMS. New York: The Macmillan Company, 1922, 186 pages.

The average individual thinks of drug addiction as something quite remote from the life of everyday people and of opium as associated with the Chinese underworld of New York City, Chicago, or San Francisco as represented on the modern stage.

As a matter of fact the drug problem has become one of paramount importance and one that is now beginning to arouse wide popular interest. This interest is evidenced by the publication of numerous periodicals and books which have appeared in the last few years.

The first of these books under review, *Opium*, by John Palmer Gavit, was inspired by the first and second Geneva Conferences held under the auspices of the League of Nations and is designed for the lay reader. Its purpose is to bring together the essential facts of the history, nature, production, and sale of the opiate products together with a discussion of the first and second Geneva Conferences. The book is written in a clear style and is neatly bound and attractive. The layman or teacher who wishes to become familiar with the essential facts of opium as a drug, and the fundamental nature of the opium problem, will be rewarded by reading this book.

The second work, *Opiate Addiction*, by Dr. Williams, is written with equal simplicity but is more technical in character and deals with the

nature and treatment of opiate addicts. The book was written to present a solution of the problem by the efficient control of drug distribution and the treatment of addicts. The history of drug distribution and addiction since the first appearance of this book has been a sordid one of the rapid spread of illicit sale and of the increasing number of addicts so that the discussion presented in 1922 seems out of date. However, the book presents valuable information for the teacher and layman and should be added to the reference library of every teacher.

E. GEORGE PAYNE

Traffic on Opium and other Dangerous Drugs with Respect to the Philippine Islands. Washington: United States Treasury Department, 15 pages.

The data presented in this bulletin cover the six months' period from July 1 to December 31, 1928, and for the calendar year 1929. The reader gets the impression from the array of statistical facts that in general the status of the Philippine Islands with regard to narcotics is much better than that of neighboring islands in the South Pacific. The plan of the American Government in regulating the opium traffic for the Philippine Islands is quite similar to that employed in the United States; namely, rigid restriction of imports to the amounts of raw and prepared opium necessary for scientific and medicinal purposes, and careful supervision of the distribution of this opium through scientific and medical channels.

J. L. ARCHER

Opium as an International Problem, by W. W. WILLOUGHBY. Baltimore: The Johns Hopkins Press, 1925, xvi+585 pages.

This volume contains a detailed and comprehensive report of international attempts at control of production and distribution of raw and prepared opium, beginning with the issuance of stringent prohibitory edicts in China as early as 1796 and ending with the signing of the protocol at the final session of the Second Geneva Opium Conference, February 19, 1925. The author is well prepared to record accurately the proceedings of the two Geneva Conferences, for he became intimately acquainted with this work in his capacity as counsellor to the Chinese delegation. He supplements the main body of the text by elaborate footnotes and extensive quotations from international documents, giving the reader an unusual insight into all of the subtle ramifications of these conference proceedings, characterized, as they were, by the customary hedging and avoidance of vital issues. The two Geneva Conferences, convened in 1924 and 1925, were designed to strengthen and widen the provisions of the Hague Convention of 1912. The purposes of these two conferences are stated as follows:

1. To limit to the world's medical and scientific needs the production of the raw materials from which narcotic habit-forming drugs are manufactured;
2. To bring to a speedy end the legalized traffic in prepared opium;
3. To control the international traffic in narcotic habit-forming drugs.

In their efforts to attain these objectives (efforts which are judged to be insincere on the part of certain European powers with colonial possessions in the Far East), the majority of the representatives at these conferences, with the outstanding exceptions of China and the United States, are "weighed in the balance and found wanting." But in his final conclusions the author reminds us that if the Geneva Conferences did nothing else, they "served to throw into clear light some of the prerequisites to success of any gathering of plenipotentiaries for the drafting of agreements for common action upon the part of the participating Powers." Trustworthy information, clear understanding as to the competence of the Conference, scrupulous regard for the autonomous rights of the Conference, avoidance of personal expressions fraught with ill feeling, a real disposition to bring about worth-while results—these are among the principal prerequisites which, according to the author, were not recognized and met by the two Geneva Conferences.

J. L. ARCHER

The Treatment of Narcotic Education in School Textbooks, by GERTRUDE ROBINSON. New York: Department of Education of the World Narcotic Defense Association, 1928, 51 pages.

The results of a survey of forty-five textbooks are presented in this little pamphlet, which is replete with specific quotations disclosing the actual treatment of topics relating to narcotics. It is shown that in most of these health books the writers had apparently found it impossible to separate the treatment of narcotic drugs in general from that of tobacco and alcohol, or even from the stimulants, tea, coffee, and chocolate. Such a treatment made it virtually impossible to evaluate the content, scope, and method of textbooks with reference to narcotic education as a distinct topic. It is further revealed that "alcohol and tobacco are in general considered with extravagant fullness and often from a rhetorical rather than from a scientific angle." Miss Robinson points out that a child through reading these books might regard a drink of tea of equal danger to a sniff of cocaine. Opium, morphine, cocaine, heroin, and the allied drugs are discussed chiefly from the patent medicine and headache-powder angle; and as the author clearly demonstrates, this means that the child gets little specific information with regard to these drugs and the ways to avoid them. The study might have been improved by a more objective treatment with graphs and charts showing the actual percentage of space devoted to various topics.

J. L. ARCHER

NEWS FROM THE FIELD

The American Sociological Society met at Cleveland, Ohio, December 29-31, 1930. This meeting of the Society was held in conjunction with the following other learned societies—the American Political Science Association, American Economic Association, American Statistical Association, American Association for Labor Legislation, the Association of Schools of Professional Social Work and Community Center Associations, and the American Farm Economic Association. The activities of the Society during the quarter century of its existence have expanded until they now include sections, besides the general section, on social research, statistics, the teaching of sociology, social work, the family, religion, rural sociology, community life, psychiatry, and educational sociology. The sections of primary interest to the readers of *THE JOURNAL OF EDUCATIONAL SOCIOLOGY* is that on the teaching of sociology and educational sociology. Professor Malcolm M. Willey of the University of Minnesota is chairman of this section. The following is the program of the section:

1. *The Teaching of Undergraduate Sociology*

The Teaching and Content of Introductory Courses in General Sociology, by Erville B. Woods, Dartmouth College

A Brief Survey of Some Present Practices in Introductory Sociology Courses, by R. E. Baber, New York University

Some Suggestions Concerning the Content of an Elementary Sociology Course, by Frank H. Hankins, Smith College

A Useful Approach for Elementary Sociology Classes, by Carl A. Dawson, McGill University

A Proposed Reorganization of the Introduction to Sociology, by Malcolm M. Willey, University of Minnesota

Special Discussion, by Floyd N. House, University of Virginia

2. *Experimental Sociology*

Luncheon Introduction, W. F. Ogburn, University of Chicago

Courses in American Colleges, by H. C. Brearley, Clemson College

An Example, by Hornell Hart, Bryn Mawr College

An Example, by Dorothy Thomas, Yale University

A few years ago when the American Society of Educational Sociologists was organized it was decided at the time that this group would continue their relationship with the American Sociological Society with a section on educational sociology. Since this group of educational sociologists are likewise interested in education it was decided to hold another meeting in conjunction with the Department of Superintendence which holds its annual sessions the last days of February and the first days of

March each year. The following is a copy of the program of the section of educational sociology as given in conjunction with the American Sociological Society at Cleveland. This same program would be repeated at the Detroit meeting of the Department of Superintendence. Professor George S. Counts at Teachers College, Columbia University, is chairman of this section for both meetings and Professor Benjamin Floyd Stalcup of the School of Education of New York University is the secretary-treasurer.

1. *The Education of Cultural and Racial Minorities in the United States*

The Education of the American Indian, by W. Carson Ryan, Department of Interior

Race Conflict as a Social and Educational Problem, by E. George Payne, New York University

The Italian Immigrant and the Schools, by Leonard Covello, De Witt Clinton High School

2. *The Play of Social Forces Upon the Schools*

The Control of Education in Industrial Society, by George S. Counts, Columbia University

Organized Labor and the Schools, by W. G. Kimmel, Commission of Investigation of History and Other Social Studies

Minority Control of Education through Legislation, by Newton Edwards, University of Chicago.

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The School of Peace, founded by *L'Europe Nouvelle*, a publication devoted to the discussion of foreign affairs, opened its doors November 1 to study ways of avoiding war. The School of Peace, open to rich and poor alike, will hold weekly evening sessions, at which the League of Nations and other international efforts to establish permanent peace will be discussed. Rector S. Charlety of the Sorbonne, André Siegfried, the League of Nations officials, and many other diplomats, capitalists, and labor chiefs will lecture before the school.

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Professor Pitirim Alexandrovitch Sorokin—condemned to death by the Russian Soviet Government, and finally banished from Russia eight years ago—has just added another title to the list of books which he has published since settling in this country. The book is a three-volume *Systematic Source Book in Rural Sociology*, which he compiled with the assistance of Professors C. C. Zimmerman and C. J. Galpin. Professor Sorokin is chairman of the department of sociology at Harvard University. He was until this year professor of sociology at the University of Minnesota, and his book is published by the University of Minnesota Press. The Source Book contains translations from practically all known languages, including Persian, Japanese, and

Bohemian, and it covers the entire period from ancient Egyptian to the present.

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The fourth biennial conference of the World Federation of Education Associations will be held at Denver, Colorado, July 27-August 1. There will be present at this meeting representatives from all the great and small nations of the world working on a world program for education for better international understanding.

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The annual meeting of the Department of Superintendence will be held at Detroit the last days of February and the first days of March, 1931.

CONTRIBUTORS' PAGE

Mr. Julian L. Archer is now engaged as an instructor in educational sociology at the School of Education, New York University. He received his A.B. degree at Ohio University and his A.M. degree at Columbia. In previous years he has served as high-school principal at Ripley, West Virginia, his home State, and later as a high-school vocational counselor at Bridgeport, Connecticut, and associate professor of education at the Alabama Polytechnic Institute, Auburn, Alabama. During the last three years he has pursued graduate studies in educational sociology at the School of Education, New York University, while working simultaneously as an instructor.

Mr. L. G. Brown is associate professor of sociology at Ohio Wesleyan University. He received his undergraduate work at Northwestern University and did graduate work in the University of Chicago from 1922-1926. Professor Brown, before going to Ohio Wesleyan, was affiliated with the Institute of Juvenile Research of Chicago. Mr. Brown has written a number of research articles in the field of behavior disorders of one type or another.

Dr. A. J. Pacini was born in New York. He attended the College of the City of New York, specializing in chemistry and in physics. He served as lieutenant, then captain, in the United States Army. He was chief of X-ray and Laboratory Section of the Department of Biophysical Research, Victor X-ray Corporation of the General Electric Company. He is at present director of the Pacini Laboratories. Dr. Pacini, in collaboration with M. Luckiesh, is the author of *Light and Health*. His entire activities are devoted exclusively to the biochemical and biophysical effects of radiation, and the industrial application of various rays.

Dr. E. George Payne is professor of educational sociology and assistant dean of the School of Education, New York University. Professor Payne, the editor-in-chief and the originator of this publication, is a native of Kentucky. He received an A.B. degree from Chicago University and later studied in the University of Paris and the Universities of Berlin and Bonn, receiving his Ph.D. from the latter in 1909. He was teacher, high-school principal, professor and dean of the Eastern State Normal School in his native State. For twelve years he was professor of sociology and president of Harris Teachers College, St. Louis. He has held his present position since 1922. Dr. Payne is one of the pioneers in the movement for health and accident education, being the author of numerous articles, pamphlets, and books in these two fields, the chief publications being *Education in Accident Prevention, We and Our Health* (Books I-IV), and *Health and Safety in the New Curriculum*.

Dr. Raymond Schlemmer, a Swiss citizen, was educated in Paris, at the University of Paris, and in England. He served in the French Army and was invalided in 1905 after six months' service. He was again invalided in 1916 while serving in the World War. In 1920 he joined the staff of the Red Cross committee and was appointed delegate general in 1922. Dr. Schlemmer is now secretary in charge of the Geneva office of the World Conference on Narcotic Education.

Dr. Charles E. Terry received his professional degree from the Maryland Medical School. Since that time he has practised his profession for a number of years and has been health editor of the *Delineator* magazine. At present he is executive of the Committee on Drug Addictions, New York, having an interest in narcotic education.

Dr. George B. Wallace is now a professor of pharmacology, University and Bellevue Hospital Medical College. He attended the University of Oregon and received his M.D. degree from the University of Michigan in 1897. Dr. Wallace was a Major, Medical Corps, 1917-1919; served as director of the A. R. C. Hospital 1, in France; was lieutenant colonel, Medical Red Cross; member of the Memorial Society of Experimental Biology and Medicine, and president from 1921-1923; member of the Harvey Society, and president from 1915-1917. He is also a member of the American Physiological Society, American Society of Biological Chemistry, American Pharmacological Society, American Medical Association, New York Academy of Medicine, American Association for the Advancement of Science, American Society of Naturalists, Nu Sigma Nu, and Sigma Xi.

